

179d.

GENERAL VIEW
OF THE
AGRICULTURE
IN THE COUNTIES OF
ROXBURGH AND SELKIRK,

WITH
OBSERVATIONS ON THE MEANS OF
THEIR IMPROVEMENT: *K. Academies - London -*
DRAWN UP, FOR THE CONSIDERATION OF THE
BOARD OF AGRICULTURE AND INTERNAL IMPROVEMENT,

BY THE
REV. ROBERT DOUGLAS, D. D.
MINISTER AT GALASHIELS.

In Nature's bounty rich,
In herbs and fruits; whatever greens the spring
When heaven descends in showers; or bends the boughs
When summer reddens, and when autumn beams;
Or in the wintry glebe whatever lies
Concealed, and fattens with the richest sap;
These are not wanting; nor the milky drove
Luxuriant, spread o'er all the lowing vale;
Nor bleating mountains: _____

THOMSON.

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1798.

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GENERAL VIEW
OF THE
AGRICULTURE
IN THE DISTRICT OF
ROXBURGH AND SELKIRK

For Banks

GENERAL VIEW
OF THE
AGRICULTURE
IN THE COUNTY OF
ROXBURGH.

YE generous Britons, venerate the plough !
And, o'er your hills and long withdrawing vales,
Let Autumn spread his treasures to the sun,
Luxuriant and unbounded. —————
'Tis Beauty all and grateful song around,
'Join'd to the low of kine, and num'rous bleat
Of flocks thick nibbling thro' the clovered vale.

THOMSON.

GENERAL VIEW
OF THE
AGRICULTURE

ROXBURGH

By J. ROXBURGH, Esq.
of the County of Devon.
In a Series of Letters
to the Hon. the Members
of the House of Commons,
in the Year 1791.
Printed by J. JOHNSON, in Pall-mall.

INTRODUCTION.

THIS work was undertaken at the united request of Sir John Sinclair, and of several gentlemen in both counties. Great pains have been taken to ascertain facts, and to state them with plainness and brevity. Provincial phrases have been studiously avoided or explained, and such words only used as, it is hoped, will be generally understood.

There may, however, be several omissions, mistakes, and errors. The information principally relied upon may have been in some instances partial, inaccurate, or not rightly apprehended. Averages and calculations may not always be formed on sound principles, and on sufficient grounds, or free from numerical mistakes. A few typographical errors may have escaped notice and correction; and perhaps peculiarities or improprieties of language may occur.—All of which are to be imputed, to my ignorance of some of the prescribed subjects, and my imperfect acquaintance with others, to my studies lying in a different line, and
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to much of my time and thoughts being necessarily occupied by the duties of my office, all the while that I was collecting materials and preparing this publication for the press.

I lie under great obligations to several intelligent friends; some of whom came voluntarily forward with liberal communications, and others were put to no small trouble in satisfying my inquiries. To them are to be ascribed most of the useful observations, which the reader will find, on the prevalent modes of husbandry and of the information relative to the botany and natural history of both counties. My acknowledgments are likewise due to Mr Ure and Mr Johnston, whose Agricultural Surveys of Roxburgh and Selkirk shires I have frequent occasion to quote, and whose previous labours have in different respects facilitated mine. I have also derived assistance, from the Statistical Accounts of several parishes, from the Agricultural Reports of different counties, and particularly from the reprinted one of Mid-Lothian, from Mr Culley's "General View of the Agriculture of Northumberland," from his "Treatise on Live Stock," and from the conversation and letters of several gentlemen unconnected with either county. I forbear to mention many respectable names, who have favoured me with their correspondence, lest I should incur the imputation of ostentatious vanity, offend the modesty of some, and inadvertently omit others out of the list. I must request several of them to forgive the liberty, which I was obliged to take, of abridging the substance and altering the

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the arrangement of their letters, and of making statements, not according to the information transmitted by any individual, but from the result of comparing the accounts received concerning the same particulars from different corners of the county.

Where opposite opinions or representations were given on any point by persons of respectability, that, which seemed most probable in itself, and was supported by the greatest number of authorities, is inserted in the text; and some notice is generally taken of the other either there or in the notes. The public may be assured, that nothing is advanced confidently, except upon the most undoubted information or personal knowledge. For, from a residence of thirty-six years in the one county or the other, and from frequent intercourse with well informed gentlemen and farmers in both, much surely may be seen and learned without great pretensions to talents or application.

On some branches of the plan adopted by the Board, which have frequently engaged my attention, I have ventured to throw out a few observations. For these, and for all incidental strictures on the practices of either county, I alone am responsible. Whatever praise or blame they may deserve must fall upon me and not upon my employers. I wish it, however, to be understood, that my commendations and censures are to be applied, not to men, but to measures, and to such measures only as belong strictly to my subject—to substantial improvements of every kind favourable to agriculture, by whomsoever they have been introduced,—

duced,—and to foolish prejudices and absurd maxims which retard the melioration of the country, by whomsoever they are retained. For however preposterous it may be, to venture upon innovations, which require the surrender of real good, for the visionary prospect of catching something better; is it not equally preposterous, to carry veneration for ancient usages so far, as to reject obstinately those alterations, which are found to be salutary and useful by unbiassed experience?

To my charge, likewise, must be laid any omissions, defects, or errors in the maps or plates. The engravers were abundantly ready to make every alteration that was suggested. The maps were accurately reduced from the large and correct ones of Stobie and Ainslie. In that of Roxburghshire, nothing is inserted, but the names of parishes, towns, villages, such places as are mentioned in the work, and a few on the confines which jut out into other counties. With regard to Selkirkshire, there being few parish churches or villages, and not many farms deserving particular notice in an agricultural view, had the same rule been rigidly followed, a large track of it would have appeared uninhabited; to prevent which, the seats of the residing proprietors, the places from whence others take their titles, and some of the most extensive farms, are named in the map. The principal mountains have the word *law*, or *fell*, or the letter *H*, added to them; and every place is carefully marked, where marl is dug, lime is burned for sale, or coals are wrought. In delineating the roads, and distinguishing,

guishing, by different colours, the arable, the green pasture, and the heath lands, I have received much assistance from persons of accurate local observation in very distant parts of the counties, but was still reduced to the necessity, in several cases, of being guided by my own geographical knowledge, in which I am far from desiring the reader to place entire confidence. The plate which contains the implements of husbandry, requiring some explanation, could not stand so conveniently in the place to which it naturally belongs, as at the end of the work. I regret that the ruts in the harrows are not at such equal distances as could be wished.

It may be proper to inform the reader, that the principal part of what relates to Roxburghshire was written in the months of June, July, and August 1796, and went to the press about the end of that year; and that what relates to Selkirkshire, and the concluding chapters, were written at different intervals during the course of 1797. This will enable him to understand the precise time to which I allude, when I speak of the present season, without specifying the year. And this has rendered it necessary to add a few pages, for the sake of inserting some interesting particulars, which either occurred since the greatest part of the work was printed, or did not reach me in time to claim earlier notice. In these *addenda*, mention may be made of places not to be found in the maps.

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He is particularly requested to supply the following omissions, and to correct the following errors :

P. 3. l. 4. *Note.* after Smaillholm insert *Stitchill.*

P. 12. l. 1, 2. *The mark of reference should be at Ednam, l. 2. where there is clay marl, not at Selkirk, l. 1. where there is none.*

P. 12. l. 16. after *Whitrigg* insert *in.*

P. 29. l. 24. for *knead* *r.* *kneaded.*

P. 63. l. 2. for *six, seven, or at most eight, r. six and an half or at most nine.*

P. 85. l. 5. after *faint* insert *cast.*

P. 88. l. 2. for *which are, r. which is.* *Note, l. 2. for fickle r. scythe.*

P. 91. l. 28. &c. *The sentence should run thus : " order, " five are sufficient, viz. one before winter, one across about " the beginning or middle of April, a third in May in the " same direction with the first, a fourth to form the drills, " or more properly the ridges, in June, or as soon afterwards " as circumstances permit, and a fifth to cover the dung " immediately before the seed is sown."*

P. 92. l. 23. for *1500 or 1600 cwt. r. 15 or 16 cwt.*

P. 130. l. 16. *I understand several judicious farmers think drains should be covered with a less depth of soil than eight or ten inches, that they may be more easily opened by the plough, to let away surface-water.*

P. 189. l. 5. for *36 by 1 yards, r. 36 yards by 1.*

P. 199. l. 23. for *Newton toll-bar r. Newtown toll-bar.*

P. 207. l. 8. after *wholesale* add *here.*

P. 210. l. 3. *A mark of reference is improperly placed before the words, " at 16 s." it should be deleted.*

— l. 14. for *price r. produce ; l. 27. for L. 114,900, r. L. 114,900 : 8 : 0.*

Note,

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Note, l. 4. for 413,823, r. 413,831, and for 9673 r. 9665.

P. 222. In this Statistical table Exp. should be in the same column with and immediately over L. 300, and,

For Galashiels $\frac{1}{8}$, r. Galashiels $\frac{1}{7}$.

P. 232. l. 26. after shells, insert upon them.

P. 244. l. 3. for four proprietors r. five proprietors.

P. 258. l. 9. for who r. which.

— l. 26. In calculating the interest of L. 1179, there is a palpable error. Instead of L. 55, 4s. as in the text, it should be L. 58, 19s. which increases the expenditure, l. ult. to L. 521, 9s. and reduces the gain, p. 255. l. 9. to L. 105, 11s. Owing to this error in the calculation of interest, the sum to be deducted, p. 26. l. 15. is L. 52, 19s. Hence the expenditure, l. 22. should be L. 507, 19s. and the profit, p. 261. l. 12. should be only L. 62, 11s.

P. 292. Note 3. l. 1. for Hairmofs r. Haremos.

P. 295. Note, l. 30. for without marl, r. without repeating marl.

P. 305. l. 14. for milk r. suck.

P. 326. l. 19. Two articles are here confounded, and the amount of one of them omitted. They must be separately stated as under, and the sum total, l. 24. will then be right.

Wool, 36,000 fleeces, at 11 d.	L. 1650
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Cheese, about	800
---------------	-----

P. 334. l. 5. after who do not, insert reside in the parish or

I forbear to point out some errors, evidently typographical, such as p. 68. l. penult. *tha* for *that*; p. 131. l. 16. *inverten* for *inverted*; p. 268. *gredually* for *gradually*, &c.

These

These every reader will be able to correct. Nor must all those in the preceding list be laid wholly to the charge of the printer. I have no doubt that most of them were owing to my inadvertence; and I persuade myself, that they would have been fewer and less material, had it not been for my inconvenient distance from the press.

GALASHIELS, }
 Jan. 15. 1798. }

THE diversity of WEIGHTS and MEASURES through the kingdom must render it very eligible, in a work of this nature, to reduce those, which are most generally used in the counties, to some known standard.

The English pound of 16 oz. Avoirdupois, their stone containing 14 of these lbs.; their hundred weight consisting of 8 of these stones; and their ton of 20 cwt. are all pretty generally known through the whole island. In relation to these, the weights in Roxburgh and Selkirk shires, stand as under :

IN ROXBURGHSHIRE,

Hay, wool, lint, butter, cheese, tallow, and raw hides are sold by

The Scotch Tron stone = 24 lbs. English, or Avoirdupois.

This stone contains 16 lbs. Scotch Tron, and the lb. = 24 oz. English, or Avoirdupois.

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IN SELKIRKSHIRE,

The stone, by which the above articles are sold, contains only 23 lbs. 8 oz. English, or Avoirdupois.

N. B. A pack of wool consists of 12 of these stones.

IN BOTH COUNTIES,

All kinds of grain, meal, flour, pot-barley, iron, cattle, butcher meat and fish, are sold by

The Scotch, Troy, or Dutch stone = $17\frac{1}{2}$ lbs. English or Avoirdupois.

This stone contains 16 lbs. Troy or Dutch, and the lb. is = $17\frac{1}{2}$ oz. English, or Avoirdupois.

N. B. Grain and cattle are rarely sold by weight, but their value is commonly computed and spoken of by this standard. Flour, when bolted and dressed, is sold by the English stone of 14 lbs. The boll or load of meal, is 16 Scotch Troy stones.

All other articles are sold by the English or Avoirdupois weight; but the stone of it, in some places, and in all places with respect to some articles, consists of 16 lbs. Avoirdupois, and not of 14 lbs. as in England.

The Linlithgow firlots are the standard measures in Scotland for all grains. There are two of them; one for wheat, rye, pease, beans, and white salt; the other for barley, oats, and malt. The former contains 2197,335 solid inches, and $21\frac{1}{2}$ pints, each pint being 103,404 solid inches. The latter contains 3205,524 solid inches, and 31 of the same pints.

pints. The Winchester bushel, being 2150,420 solid inches, is very little less than the Scotch firloft for wheat, &c. Relative to these standards, the measures of Roxburgh and Selkirk shires, are as follows :

IN ROXBURGHSHIRE,

Wheat, pease, beans and rye, are sold by the boll of five firlofts, each firloft containing 2274,888 cubic inches, and 22 pints, being 3 Scotch mutchkins, or nearly $1\frac{1}{10}$ English quart, above the Scotch standard. The boll is = 5 firlofts $3\frac{1}{4}$ pints Scotch standard, and = 5 bushels 3 pecks 2 pints, and a fraction English standard.

IN SELKIRKSHIRE,

The firloft is $\frac{1}{10}$ of a pint larger, which gives only a very trifling increase in the boll.

N. B. In both counties this boll is falling into disuse, and in the following work has reference only to the *fiars*, and average monthly returns of the prices of grain to Government. These grains are commonly sold by the boll of 6 firlofts instead of 5. To this boll I uniformly refer, except as above ; and the reader will see that in Roxburghshire it is precisely equal to 4 of the county firlofts for oats, barley and malt as under.

IN ROXBURGHSHIRE,

Oats, barley and malt, are sold by the boll of 5 firlofts, each firloft containing 3412,332 cubic inches, and 33 pints, being 2 pints (near 3 English quarts) above the standard.

This boll is = 5 firlofts 10 pints Scotch standard measure, and is = 7 bushels 3 pecks 11 pints and a fraction English, ditto.

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IN SELKIRKSHIRE,

This boll consists of 10 *fulls*, each *full* containing 1615,685 cubic inches. Two of these fulls make a firloft of 3221,370 cubic inches, and five of these firlofts make a boll = 5 firlofts $1\frac{1}{2}$ pints Scotch standard, and = 7 bushels 2 pecks and a fraction English ditto.

N. B. Little or no malt is now sold. And meal is never sold by measure. The Roxburghshire firloft is used in many places of Selkirkshire. Of this firloft 4 is the most common, both of wheat and pease, and 5 of oats and barley in both counties, though there are many exceptions.

This boll, viz. of 4 Roxburghshire firlofts for wheat and pease, and of 5 of the same firlofts for oats and barley, is always to be understood in the following work, where no exception is expressly mentioned.

Land is always measured by the English statute acre, and roads by the English statute mile.

AGRI.

IN SELF-DEFENSE

The first rule of self-defense is to avoid a fight if possible. If you cannot avoid a fight, then you must use force to defend yourself. The second rule is to use only the force necessary to defend yourself. The third rule is to use force only when you are in danger of being harmed.

The fourth rule is to use force only when you are in danger of being harmed. The fifth rule is to use force only when you are in danger of being harmed. The sixth rule is to use force only when you are in danger of being harmed.

The seventh rule is to use force only when you are in danger of being harmed. The eighth rule is to use force only when you are in danger of being harmed. The ninth rule is to use force only when you are in danger of being harmed.

The tenth rule is to use force only when you are in danger of being harmed. The eleventh rule is to use force only when you are in danger of being harmed. The twelfth rule is to use force only when you are in danger of being harmed.

ACPI

AGRICULTURAL SURVEY

OF

ROXBURGHSHIRE.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. I.—*Situation and Extent.*

ROXBURGHSHIRE, called also TEVIOTDALE, from the river Teviot running through its most extensive dale, is situated in N. lat. from $55^{\circ} 7'$ to $55^{\circ} 42'$, and between $1^{\circ} 39'$ and $2^{\circ} 36'$ W. long. from London. Its southern point, known by the name of Liddesdale, stretches out between Dumfriesshire and Cumberland, being separated from the former by the tops of mountains, and the Mare-burn, which falls into Liddal-water; and from the latter, first by that water, and afterwards by Kershope, to its source, from whence the boundary with Northumberland, except in a very few spots, runs along the summit of a lofty ridge, in various curves E. and N. E., towards the eastern and highest part of Cheviot, where it turns N. and N. W., crossing Bowmont-water, and proceeding with several irregularities towards the river Tweed, at its junction with Carham-burn:

Following

Following these curvatures, this county borders with England about 60 miles. It is divided from Berwickshire for a short way by Tweed; but about a mile above the mouth of Carham-burn it crosses that river, and includes the parishes of Ednam, Stitchill, Kelso, Smaillholm, and Makerstoun. At the western extremity of this last parish, Tweed again becomes the boundary, until it receives the water of Leeder on the N. Here a space of about 5 miles square juts out northward, between Berwickshire and Selkirkshire, till it meets the southern angle of Mid-Lothian on the N. W. From Selkirkshire, on the W. it is separated successively by Gala, Tweed, and Etrick Waters, and afterwards by a line running mostly S. S. W. in a most crooked and whimsical manner towards the confines of Dumfrieshire, comprehending a part of the parishes of Galashiels, Selkirk, Ashkirk, and Robertson. Its greatest length, from the junction of the Mare-burn with Liddal to the junction of Carham-burn with Tweed, is 41 miles: and its greatest breadth, by a line crossing the above at right angles, is 29 miles. Its medium length is about 30, and its medium breadth a little more than 22 miles, making its contents nearly 672 square miles, or 430,080 square acres; of which about three-fifths, or 288,048 acres are in sheep-pasture, and the remaining two-fifths, or 172,032 acres are occasionally under the plough, except about 8000 acres occupied in woods, pleasure-grounds, and the sites of towns and villages. It contains 29 complete parishes, besides part of the 4 already mentioned, and the old parish of Stitchill, to which that of Home in Berwickshire is now annexed.

SECT. II.—*Division.*

THE only agricultural division, of which this county admits, is into pasture and arable lands. A line, drawn from the point where the boundary with England crosses Bowmont-

mont-water, W. S. W. by Jedburgh and the N. of Dunian and Rubers-law to Hawick, and turning N. from thence along the turnpike-road to Selkirk, will nearly separate the former of these on the S. from the latter on the N., with the exception of the small tract N. of Tweed between Leeder and Gala Waters, the largest half of which is allotted to sheep. In the one, there are many fertile vales in tillage, which greatly overbalance the pasture hills in the other. Two of these hills, in the arable district, attract the notice of travellers; Minto, with two flat tops, on the N. of Teviot, 858 feet, and Eildon, immediately S. of Tweed, near Melrose, whose three conical tops, though only 1330 feet, are seen at a great distance. In the pasture district there are many hills of considerable height. The Dunian, 1021 feet, and Ruberslaw, 1419 feet, are, like Eildon, conspicuous from their situation and shape, though much lower than Wisp and Tidhope, each of which is 1830 feet; Millenwood-fell and Windhead, each of which is computed, from an observation taken by the theodolite, to be 2000 feet*; and Hownamlaw, Windburgh, Maidenpaps, and Greatmoor, whose measurements are not known. On the confines of Northumberland, Carter-fell is 1602 feet, and Chillhill must be rather upwards of 2000 feet, as it stands near the highest top of Cheviot, which is 2682 feet. These heights are all taken from the level of the sea, by a barometer, and may not be perfectly exact.

For the purposes of justice and police, the county is divided into four districts †, in each of which the Justices of Peace

* See Statistical Account of Castletown, vol. xvi. p. 63.

† Viz. The district of Jedburgh, comprehending the parishes of Jedburgh, Crailing, Oxnam, Southdean, Hobkirk, Bedrule, Minto, and Ancrum. The district of Kelso,—Kelso, Sprouftoun, Linton, Yetholm, Moberattle, Hownam, Eckford, Roxburgh, Makerstown, Smaillholm, and Ednam. The district of Melrose,—Melrose, St Boswells, Maxton, Lilliesleaf, Bowden, Galashiels, and Selkirk: And the district of Hawick,—Hawick, Wilton, Cavers, Kirktown, Castletown, Robertson, and Ashkirk.

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Peace hold courts quarterly, or oftener if business requires. They take cognizance chiefly of causes between masters and servants, trespasses against the game-laws, public nuisances, and cross roads; with all of which the interests of agriculture have a nearer or more remote concern.

SECT. III.—*Climate.*

SOME fields in this county being only about 90, and several hills about 2000 feet above the level of the sea; the greatest part of it declining towards the E. and a small part towards the W.; the climate must, of course, be extremely various. In proportion to the elevation of the ground, the air is more moist and sharp; and through the whole island, the western coast is more exposed to wind and rain than the eastern. In the Transactions of the Royal Society of Edinburgh, vol. i. there is a comparative table of the quantity of rain which fell at Dalkeith, Branksholm, and Langholm, for the following years:

	Dalkeith.	Branksholm.	Langholm.	Wool or Wall.
1773.	25.473	32.652	38.850	34.022
1774.	27.925	29.250	34.405	30.688
1775.	29.550	38.573	39.300	39.177
1776.	20.650	26.295	34.161	27.579
1777.	22.025	29.533	36.950	
	125.623	156.303	183.666	

Langholm and Dalkeith are not in this county; but the former, being in the neighbourhood of Liddesdale, cannot differ much from it in climate; nor can the latter be much drier than Kelso in the lower part of Roxburghshire. It appears, that, in five successive years, there was about one-fifth less rain at Dalkeith than at Branksholm, and about one-sixth less at Branksholm than at Langholm. Now as Branksholm (near Hawick) is nearly equidistant from Langholm and Kelso, there can be no material error in supposing, that

that about one-sixth less rain falls at the latter place than at Branhholm, especially as this still allows to Kelfo a more humid climate than Dalkeith. After the most diligent inquiry, I cannot learn that a diary of the weather has been kept in any other part of the county, except at Wool, about 7 miles N. from Branhholm, in a higher exposure. From it I was favoured with the additional column in the above table, and also with the following abstract of the medium state of the barometer, thermometer, and rain, for the year 1780, which is placed opposite to an abstract of these particulars at Branhholm that year:

	<i>Branhholm.</i>			<i>Wool or Wall.</i>		
	Bar.	Ther.	Rain.	Bar.	Ther.	Rain.
January,	29.160	25.605	Frost.	29.380	29.020	1.120
February,	29.000	32.290	1.250	28.050	32.370	1.210
March,	29.000	42.613	2.950	28.820	43.000	2.780
April,	28.900	40.700	2.500	28.720	40.880	4.085
May,	29.090	50.226	4.025	28.920	51.020	3.530
June,	29.213	55.000	2.100	29.090	52.500	1.860
July,	29.280	58.355	2.050	29.995	60.050	1.630
August,	29.430	59.000	.250	29.310	63.000	.500
September,	29.000	54.900	3.350	28.630	56.140	4.415
October,	29.230	44.260	4.700	28.710	45.050	4.060
November,	28.180	34.600	1.975	28.250	36.850	1.440
December,	29.530	35.700	.350	29.440	35.025	.540
			25.500			27.170

This table shows, that in the more elevated situation there is both greater heat and more rain than in the lower one; and it confirms the general opinion, that July and August are the warmest and driest months in the year, although sometimes prodigious thunder showers fall in both. The weather in September and October admits of every possible variation. It is often serene and pleasant: But excessive rains, winds, and frosts, even hail and snow, are by no means uncommon, and have done incredible damage to the crops in different years. November is nearly of the same complexion. December is in general more moderate and uniform. Frost and snow are seldom severe, or of long duration

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ration, before Christmas. January and February are the months when snow is most common, and when frost is most intense. With some short interruptions, they have been known to remain until dissipated by the influence of the sun in March. During that month, frosty mornings are succeeded, sometimes by clear sunshine, at other times by a hurricane of wind, rain, and fleet, and not unfrequently by piercing northerly blasts, accompanied with hail. Cold easterly winds prevail very much in April and May, often too in June, either bringing constant rains for a succession of days, or exhaling moisture so quickly from the earth, as to stunt the tender stalks both of corn and grass. But every one of these general assertions has been at times reversed. After an open and soft winter, great quantities of snow have fallen in March, April, and May. In other years, April has been wonderfully mild, May and June the warmest, July and August the wettest, and September and October the most settled months. This extreme uncertainty of the weather makes farmers desirous of sowing wheat, especially on clay lands in fallow, early in September, or as soon thereafter as the state of the ground will permit. After beans, pease, and clover, it is sown whenever the crop can be removed, and the field can be ploughed, generally in October; and after potatoes, in the end of that month, or beginning of November. Of late, a good deal of spring-wheat is sown after turnips eaten by sheep. Beans, and *cold* or late pease, are sown, in favourable seasons, as early as February, but more commonly about the beginning of March; oats, during the whole of that month, and in the two first weeks of April; *hot* or early pease, towards the middle and end of that month; and barley, from the middle of it till Whitsunday. Harvest, in the lower parts of the arable district, has been known to commence in July, but has very seldom become general, even there, till the middle of August, and

is

OF ROXBURGHSHIRE.

is mostly over about the beginning of October. In the higher grounds it is a fortnight or three weeks later. Much corn has been seen in the fields in November.

SECT. IV.—*Surface and Soil.*

THE surface is finely diversified, and exhibits many scenes that are truly beautiful, few that are romantic or sublime. The hills have mostly sloping sides, and are covered with a green sward to the very top. Very few of them are bleak, and none rugged or tremendous. The prospects from their summits are extensive, variegated, and delightful. The numerous vales, whether of narrow or wide extent, are all watered by limpid streams; many of them are naked, and many fringed with wood. Some afford excellent pasture; others are in high cultivation. They are, in general, inclosed by gentle declivities, though severals are hemmed in by steep banks, over-run with brushwood, or adorned with lofty trees, which form a scenery rather agreeable than magnificent. In a county, so large, and on the whole so elevated, the proportion of heath and moss * is very inconsiderable, but cannot be calculated with any degree of exactness,

as

* *Moss*, in Scotland, is equivalent to *morass* or *bog* in England, when these contain the black or dark-coloured substance formed by stagnant water from corrupted vegetables, which is sometimes in a fluid state, and sometimes dry and porous. In a fluid state, a variety of water plants shoot forth from it; when dry and porous, it is covered with a tough sward of heath and coarse grasses, capable of bearing the weight of sheep, and even of cattle. In this state, the surface is, in many places, made into *turf*, and the black substance beneath is dug with a spade contrived for the purpose, and dried into *peats*, both for fuel. Under it marl is often found, when the water, detained in it, is favourable to the production of those animals, out of whose shells and decayed bodies, that manure is now understood to be composed. A curious fact, illustrative of this theory relative to the formation of marl, is inserted in the Agricultural Report of the neighbouring county of Selkirk.

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as they are scattered every where, in portions of unequal size. In Liddesdale, where improvement has hitherto made slow progress, patches of moss are seen by the edges, and even in the middle of fertile vales. There are indications of this having been once the case in other parts of the county, on which industry has now wrought a happy change.

In the pasture district the soil is dry, wet, or heathy. To the eastward of Jed Water, the hills are mostly composed of red granite, and covered with a thick sward of rich and sweet grass; there is very little heath; the marshes are not numerous or extensive, and intersected by a multitude of drains. The dry soil, west of Jed Water including Liddesdale, is either on limestone or gravel; there are many *mosses*, a great deal of fenny land, a deficiency of drains; and a large tract of stubborn clay, lying on a cold impenetrable till*, stretches from the S. W. skirt of Rubers-law to the confines of Liddesdale. That detached corner†, whose value only begins to be known, is almost wholly pastoral, and though unquestionably the wettest part of the county, has no small proportion of dry land, and many spongy fields producing coarse grass, which are susceptible of great improvement by draining; yet much of its best soil is thickly interspersed with spots or stripes of moss, which cannot easily be removed, or turned to any solid advantage. There is
not

* "The most general signification of till seems to be, a very hard clay, impenetrable by the roots of plants, and but in a small degree by water. Frequently, in this clay, are imbedded a great number of small stones, like coarse gravel; these are often so firmly combined by the clay, or other cementing matter, that they are not easily disunited. Such is the till that prevails in Roxburghshire. It may be converted into soil; but, in order to render it fertile, no small pains, and a considerable length of time, are necessary." Mr URE, p. 9, 10.

† It is 18 miles by 14; but being a triangle, one half of the produce makes its contents about 30,000 acres.—Stat. Acc. of Castletown, vol. xvi. p. 61.

not much heath and moor in proportion to the extent of the pasture lands. But in these, and indeed through the district at large, the dry and sound soil greatly predominates.

In the arable district, the soil is partly light, and partly heavy. The light consists of rich loam, or mixtures of loam and sand, of loam and gravel, of sand or gravel and clay, in every various proportion. The loam, gravel, sand, and clay, also, are of very different qualities, or degrees of excellence. It is also to be distinguished, according as it is incumbent on till, clay, gravel, sand, freestone, limestone, and different kinds of granite. Where it is shallow, some of the substratum, being ploughed up and by frequent culture incorporated with the soil, may partly occasion the medley which the surface exhibits: And deep spots in low lands are probably composed of decayed vegetables, and rich particles of earth, carried down and deposited by the rivers. The heavy soil is chiefly clay of different depths and degrees of stiffness, or mixtures where clay prevails, placed on till, or other matter, retentive of water. In a very few spots this surface lies on a dry bottom; and not unfrequently different and opposite soils are strangely blended in the same field. The light soil, however, is in general found on low and level lands near the beds of rivers and their branches; and also on several eminences of considerable extent, especially in the parishes of Linton, Eckford, Crailing, Ancrum, Maxton, and Melrose. The heavy soil rarely appears on the vallies, and chiefly occupies the higher grounds. The largest track of it lies immediately S. of Eildon Hills, including nearly the whole of Minto, Lillieleaf, and Bowden parishes, and a great part of Melrose, St Boswell's, Ancrum, Maxton, and Roxburgh. Stretching in a straight line about 10 miles, and being, at an average, above 4 miles broad, it must comprehend about 10,000 acres; of which at least one half is shallow, cold, and un-

B

kindly,

kindly, difficult to labour, and uncertain in its produce; on which account, upwards of 1000 acres have properly been planted with trees. In the other half there is much rich and fertile land, which bears luxuriant crops, both of corn and grass, and not a little of a middle nature between these extremes. In the parishes, also, N. of Tweed around Kelso, the heavy soil is rather most prevalent, and is, in general, of a good quality. Another considerable portion of it runs along the higher grounds S. of Tweed, in the parishes of Sprouston, Kelso, Roxburgh, and Eckford, some of which is of little value; and there are detached fields of it in other parts of the district. In the bosom, or deeply indented into the sides of these clayey tracts, and especially in the vicinity of Lilliesleaf, are pieces of dry land, of an admirable quality for producing either white or green crops. Of the arable district at least two-thirds may be safely called light and dry.

SECT. V.—*Minerals.*

IN several parts of the county, iron stones are found in the soil*. There are also some springs weakly impregnated both by it and sulphur†; and one of a petrifying nature on the Tweeden†, which falls into Liddal. There are appearances of petrification in other parts; and fragments of agate†, jasper, and rock crystal, are thrown upon the surface by moles, the plough, and torrents, in many

* Speaking of the clayey lands S. of Eildon, Mr Ure says, p. 10. "There is a certain quantity of iron in its composition from 2 to 6 per cent."

† See Stat. Acc. of Jedburgh, vol. i. p. 4:—of Crailing, vol. ii. p. 328.—of Castletown, vol. xvi. p. 78.—of Oxnam, vol. xi. p. 319.—of Hobbkirk, vol. iii. p. 312.—and Mr Ure's Report, p. 2.

many different places, particularly at *Roberts Linne* *, towards the confines of Hobkirk parish with Liddesdale. Coal was discovered about 30 years ago, on the Carter Hill near the border of Northumberland, and wrought for some time, but abandoned as of little value. Another, of a better quality, has since been found in the southern extremity of Liddesdale, from which, however, only a very small part of the county derives any benefit. Through the whole of that region limestone abounds, but, for want of a demand and of good roads, little or none is calcined for sale, though it is of superior quality to what is manufactured farther N. and N. E. in the neighbourhood of Hawick and Jedburgh. The poorness of the lime, and the distance from coal, prevent it from being generally burned in other parts of the county where it has appeared. There is no freestone in the N. W. or S. E. corners of the county. It seems to run, with several irregularities, and perhaps some interruptions, in a N. E. direction, from the farthest point of Liddesdale to the neighbourhood of Sproustoun, where it is of a fine hard and durable nature. Different kinds of whinstone appear every where on the surface, in the beds of brooks, and in inexhaustible quarries. Vast quantities of shell-marl † lie scattered through the contiguous parishes of Robertson, Ashkirk, Wilton, Minto, Lilliesleaf, Bowden, Galashiels, and Selkirk.

* They are mostly of an amber colour, with bluish veins, and streaks of deep red. Some are pure, but full of fractures.

† Mr Ure, p. 47. observes, "It is chiefly the *Mytilus exiguus* (of Lister) "*Helix nana*; *H. putris*: this last is by far the most numerous. Mud and decayed vegetables are, in different proportions, mixed with the shells, many of which are entire. All the varieties are natives of Scotland, and are found living in stagnant water, in mosses where marl has been discovered. They are extremely prolific, a circumstance which accounts for their immense number."

Selkirk *. There are also large marl pits at Eckford and Ednam; and some less considerable ones in different places. A small quantity of it was lately found on the very banks of Tweed, in the parish of Maxton, below a thick stratum of coarse gravel, covered by a light soil; and, on the opposite side of that river, at Whittrigg, an angle of Berwickshire, a vast mass of fine marl begins now to be sold, from which the surrounding parishes in this county may eventually derive great advantage.

SECT. VI.—*Waters.*

No county in the kingdom can boast of more numerous or beautiful rivers and brooks. One of them flows through, and enlivens every little vale. Tweed and Teviot are alone called rivers. The first holds a majestic course along banks, which, in several places, are steep and bold, jutting out at Old Melrose into a promontory, and forming around Dryburgh a peninsula. It partly bounds and partly intersects the county, receiving on the N. the Gala, which is the boundary with Selkirkshire and Mid-Lothian for 5 miles; the Leeder, which, for nearly the same space, is the boundary with Berwickshire; the Allen (corrupted into Elwand), a pastoral rivulet, and the Eden, which rises in Berwickshire, but runs a considerable way along the skirts and through the lower part of this county. Ettrick, also, a boundary of Selkirkshire for a mile and an half, falls into Tweed on the south. Teviot rolls its pure streams over a pebbled bed, in many delightful windings, through a succession of rich, extensive, and well cultivated vallies, for 34 miles, till it loses its name in the Tweed, between Roxburgh Castle and Kelso, one of the most enchanting spots which can well be conceived. The Ale and Borthwick are the northern branches of Teviot. Both rise in Selkirkshire,

* In this neighbourhood there is a good deal of *clay* marl.

shire, and are in some places boundaries of the two counties. The Ale flows upwards of 12 miles in this county, through fields of very unequal fertility, many of which have wooded banks, till, emerging from scenery that is truly romantic, it is emptied into Teviot below Ancrum. The Borthwick joins Teviot above Hawick, after passing through a country that is chiefly pastoral, but much improved of late by tillage, and manure, and young plantations. On the S., Teviot is augmented by the Kale, the Oxnam, and the Jed. The first and last issue from the border hills. The Kale, after leaving the mountains, waters, and sometimes overflows, a great part of a spacious and valuable plain of 1200 acres *, adorned on different sides by clumps of full grown trees; while the Jed, rushing along a rocky channel, through narrow and thick wooded vales, washes the bottom of several high precipices, winds around the county town, and terminates another, and still more extensive plain, known by the name of Crailing-haugh, through the middle of which the Oxnam finds its way to Teviot. Nearer to its source, Teviot receives the Rule, the Slittrige, and the Allen, all of which rise on the confines of Liddesdale. In the number and value of its trees, Rule may vie with *Silvan Jed* †, but not in wild and picturesque scenery. Slittrige is not without the beauties of green hills, natural wood, and hollow vales. Allen, like the stream of the same name, N. of Tweed, flows wholly through sheep-walks. Bowmont is another pastoral rivulet, which has its source in the S. E. of this county, and, after a rapid course of nine or ten miles, enters England. But of all the waters in Roxburghshire, few are more indebted to nature, or might be more improved by art, than Hermitage, which rises in the southern declivity of the ridge, from whence Allen and Slittrige go in an opposite direction, and tumbling over a
bottom

* See Stat. Acc. of Linton, vol. iii. p. 120.

† Thomson's Autumn.

bottom of rough shapeless stones, amidst green hills, whose base is generally skirted with copsewood, loses itself in the Liddal, and imparts its natural ornament to that larger, but more naked stream. The course of Liddal is more placid: it issues from a flat, not improperly called *Dead Water*, and comes through a district more marshy and level. After their junction, they are increased by some considerable brooks, and, with a velocity, which has excavated pools of an uncommon depth, descend through vales, capable of being rendered, by the hands of skilful cultivators, as productive as they are beautiful, for the space of 8 or 9 miles, when they separate Cumberland from Dumfriesshire, and mingling with Esk, are carried into Solway Firth.

In an inland county, whose lowest point is above 20 miles from the sea, and 10 from the highest tide-mark on the sides of Tweed, the quantity of salmon is greater than might be expected. They are chiefly found in Tweed, few of them in Teviot, and none in the lesser waters, except in the time of spawning. A number of a smaller size, or, as some allege, of a distinct species, called here *grilse*, and of sea-trouts, here called *whitlings*, towards the middle and end of the fishing-season, visit Tweed, Teviot, and the larger branches of both. Trouts of different sizes and flavour abound in every brook; but Ale, Rule, Jed, and Kale, are most famed for the number and excellence of their trouts. There are several small lakes in the county, some of which contain a multitude of perches and pike. Of these, the most remarkable for size and beauty are Cauldshiels, on the estate of Faldaneside, and Headshaw, towards the N. W.; and Prim-side, or Lochtower, towards the S. E.

CHAP. II.

STATE OF PROPERTY.

SECT. I.—*Estates, and their Management.*

WHEN all the lands in Scotland were valued, the rents, payable in victual, seem to have been converted into money at different rates, according to the quality of the grain raised, and the measures used, in different counties. The common conversion for Roxburghshire was, wheat at L. 8; oatmeal, in some places, L. 8, in others, only L. 7; bear, L. 6; and oats, L. 4, all Scotch money, *per boll*. But the rate was much higher in many estates, probably from a mistaken vanity in the proprietors, or a desire of acquiring political importance from the largeness of their rent-rolls. To some such cause, more than to the superior value of the soil, the valuation of this county is greater, in proportion to its extent, than that of any other in Scotland. It amounts to L. 314,663 : 6 : 4 Scotch, of which L. 129,126 : 6 : 7 belongs to 6 peers, L. 128,345 : 7 : 6 belongs to 42 commoners, each of whom has property valued above L. 1000 Scotch; L. 54,097 : 7 : 3 belongs to lesser commoners, including those small proprietors, known by the provincial names of *acrerers, portioners, and feuers*, 18 parcels of whose lands, in different places, are valued in the gross, besides 123 who

who have got their small properties separately valued. The remaining L. 3094 : 5 : 0 belongs to public bodies. Of the 42 greater commoners, 5 are precluded, by the nature of their tenures, and 1 from being the eldest son of a peer of Scotland, from voting for a member of Parliament; 34 are upon the roll of freeholders, another may enter when he chuses to apply, and one only is a minor. There are 80 freeholders at present, 12 of whom vote as superiors of lands not possessed by them, some of them having retained or purchased that privilege, or obtained a gift of it from their relations. Besides these, two eldest sons of proprietors are enrolled, on acquiring from their fathers a right to as much of the estate as the law requires. It is more worthy of notice, in an agricultural view, that this roll contains the names of 8 actual farmers, who, by their industry and skill, have purchased estates.

Property has not, for a long time, undergone any remarkable change. Estates, indeed, of considerable size, have been sold within the last 40 years; some of them twice, at such an advanced price, as shews the gradual and rapid increase of the value of land. Stewartfield, near Jedburgh, was sold in 1768 for L. 7000 Sterling, and again in 1771 at L. 11,500 Sterling; Ednam was sold in 1766 for L. 16,500, and again in 1787 for L. 31,500 Sterling. Softlaw, near Kelso, was bought in 1778 for L. 6500 Sterling, and fetched double that price in 1794. Many other instances might be produced of a still higher rise in small fields around towns and villages*. But the small migration of property is evinced by two circumstances. One of them is, that of the above 42 larger estates belonging to commoners, only 14 have

* Crailing indeed was bought in 1766, and sold in 1786, at a very small additional price; but there were circumstances which render it an unfair instance of the progressive value of property.

have been in the market during the period mentioned, and that, besides these, only two large estates, belonging to peers, were sold, and another still larger estate than either of them was purchased by a peer from a commoner. The other is, that more than two-thirds of the whole county is possessed, at this moment, by families of seven different surnames, which have had property in it for centuries, as will appear from the following state, which may not prove uninteresting to some of the gentlemen concerned, as well as to strangers :

Surname.	Peers.	Proprietors.	Freeholders.	Valuation.
Ker,	2	10	6	L. 83869 6 0
Scott,	1	25	6	60989 12 7
Elliot, *		13	8	24470 3 10
Douglas	1	6	4	23161 3 10
Pringle,		4	3	11191 15 8
Riddel,		4	3	8225 1 4
Rutherford,		6	4	5797 2 0
Total,	4	68	34	L. 217704 5 3

There are several other names of great antiquity in the county, individuals of which still retain the estates of their progenitors to a very considerable amount.

From the best information which I can collect, the average rent of the pasture district will be nearly 3 s. *per acre*; and supposing 3-5ths of the whole county, or 258,048 acres to belong to it, the amount will be - L. 38707 4 0

Deducting, from the remaining 2-5ths, 8000

acres occupied in wood, pleasure-grounds,

&c. there will be 164,032 acres of arable

land at 15 s. *per acre*, - - - 123024 8 0

Carried forward, L. 161731 12 0

* Though the late Lord Heathfield was a native of this county, he never had, and his son, the present Lord, has not any property in it.

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Brought forward,	L. 161731 12 0
There are at least 5290 acres in wood, worth about L. 300,000, the interest of one half of which may fairly be added to the rent of the county,	7500 0 0
And the remaining 2710 acres in pleasure-grounds, gardens, &c. cannot be estimated at less than L. 1 per acre,	2710 0 0
Making the real rent of the whole county,*	L. 171941 12 0
The	

* It becomes me to state the grounds on which this computation proceeds. The highest rent *per acre* of any extensive pasture farm, that has come to my knowledge, is 5 s. 6 d. and the lowest is 1 s. 1 d.; the exact medium between them is 3 s. 3½ d. But the number of acres let above 3 s. is comparatively small, and their average does not exceed 3 s. 9 d.; while a much greater number of acres, let under 3 s. gives only an average of 2 s. 2 d.; and the medium between these averages is 2 s. 11½. There are, indeed, several valuable farms, of whose real average I am ignorant, and which are computed at 4 s. But there are other farms, still more extensive, concerning which I am equally ignorant, computed at 2 s. or at least below 2 s. 4 d. These are the computations of neighbours, who know the rents, but do not know the exact measurements, and judge of these by the number of sheep kept. Upon the whole, 3 s. *per acre* cannot be far from the truth, but is probably rather below than above it.

I am more uncertain about the average of the arable land, and have been obliged to rest satisfied with a conjecture, formed on such imperfect information as I could obtain. Several intelligent farmers are of opinion that my average is rather too high. To them I beg leave to submit the following considerations: 1st, There are 39 villages in the county, besides Jedburgh, Kelso, and Hawick. Around each of these there are from 100 to 200 acres, which actually yield, or might yield if let, two guineas each. 2^{dly}, There are many inclosures in old grass, which are annually let at the same rate. 3^{dly}, There are one or two farms under lease at L. 2 *per acre*; several at 30 s. and 31 s. 6 d.; a considerable number between 25 s. and 30 s.; a still greater number from 20 s. to 25 s.; and large tracks are rented about 15 s. *per acre*, and from that to 20 s. 4^{thly}, Though a larger portion of the arable district than all these joined together, is certainly let so very low as not to exceed 7 s. 6 d. *per acre* at an average, yet even this will not bring the

The rent paid for fisheries is not taken into this statement, because houses and pieces of ground are generally set along with them; and, exclusive of these, they do not yield above L. 74 Sterling. As opinions differ concerning the value

the general average below the sum stated. And besides, *sthy*, There are, within the line of the pasture district, especially on the waters of Kale, Oxnam, Jed, and Rule, some farms almost wholly arable, the rent of which so far exceeds the average of the pasture lands, as to furnish a considerable surplus to increase that of the arable.

The inequalities, however, both in the surface and value of the ground, through every part of the county, render it extremely difficult to fix a general standard with any tolerable degree of precision. There are, indeed, several sheep farms, which have been never or very little ploughed. But there are very few arable farms, which have not a greater or less proportion of coarse or exposed land, fit only for sheep; and most of the pasture farms have a good deal of land in tillage. This has suggested the idea of making three different averages; one for the pasture land at 3 s., but allotting to that district only 2-5ths instead of 3-5ths of the county; a second at 15 s. for the arable land, comprehending one-half of the other 3-5ths, after deducting the 8000 acres, as proposed in the text; and a third for such farms as consist somewhat equally of both, including the remaining half: taking this last average at 6 s. the real rent of the county will be rather less than I have stated it; taking the average at 7 s. it will be rather more. Thus,

2-5ths of the county, or 172,032 acres at 3 s.	-	L. 25804	16	0
Deducting, from the remainder; 8000 acres occupied in wood,				
&c. there will be 125,024 acres at 15 s.	-	93768	0	0
And 125,024 acres at 6 s.	-	37507	4	0
Value of wood, garden, and pleasure-ground, as above,		10210	0	0
		L. 167290	0	0
Estimating the last 125,024 acres at 7 s. there falls to be				
added 125,024 s. or	-	6251	4	0
		L. 173541	4	0

The above computations seem to evince that there can be no material error in the sum assigned as the real rent of the county in the text.

The wood is estimated at a very low rate. From the statistical table annexed, it appears that there are 4682 acres planted. Throwing away 1682 as lately planted, not thriving, and affording no return, there remains 3000.

Of

value of the houses and little farms attached to the fisheries, this calculation may not be altogether correct.

Of 48 great proprietors *, 18 reside constantly; 11 occasionally; 7 live in the immediate neighbourhood; and only 12 are absentees. Most of the absentees, and many of the others, have stewards (here called factors) to receive and discharge their rents, agree on the terms of leases, and manage their estates in other respects. There are about 20 other gentlemen, who live always in the county in elegance and hospitality, and several, who make it their summer's residence. Such as reside, generally farm some part of their lands, and keep an overseer or *grieve*, who is equivalent to a bailiff in England, to look after their servants, and direct the operations of their husbandry. Some of them, occasionally, retain large tracks in their own possession, to improve and let them at a higher rent. Much was done in this way, with great success, many years ago, by a few public spirited and enterprising proprietors;

Of these, 1000 acres contain each 680 trees, from 12 to 20 years old, each tree being only worth 6 d. or L. 18 <i>per</i> acre,	L. 18000	0	0
Another 1000 acres contain each 435 trees at 3 s. each, or			
L. 65, 5 s.	65250	0	0
And 1000 acres contain each 221 trees at 15 s. each, or			
L. 165, 15 s.	165750	0	0
There are 608 acres of natural wood, worth at least L. 100 <i>per</i> acre,	60800	0	0
Making in all,	L. 309800	0	0

Of which the full interest, being L. 15,490, falls, strictly calculating, to be added to the rent of the county. But I have allowed no less than L. 159,800 to be deducted, for defraying all expences of planting, inclosing, and rearing the wood, and the rent of the land occupied by it; and I have only added, to the rent of the county, L. 7500 as the interest of the remaining L. 150,000. Even this sum yields an annual rent of L. 1 : 8 : 8 for every acre in wood, and furnishes a strong argument for increasing the number of them — For a fuller account of the particulars in this note, the reader may consult Chap. IV. Sect. II. and Chap. X.

* Viz. 6 peers and 42 commoners.

prietors; and others are now following their footsteps with laudable ardor and perseverance. The small proprietors generally occupy their own possessions, as do the actual farmers, of whom many, besides those on the roll of freeholders, have acquired handsome fortunes. Yet more than 11-12ths of the whole county is let on leases of longer or shorter duration.

Too little attention is paid to the preservation and increase of villages, though they are of great importance to the improvement and cultivation of land. Few of the occupiers of those mentioned in the note labour for hire, except with their horses at the highways, or carrying coals, &c. Of villages, inhabited wholly by cottagers employed in agriculture, there are scarcely half a dozen in the county; and even some of these are falling into decay, like others, whose ruins only remain. Great praise is due to a few, who encourage useful mechanics and labourers to dwell near them; and a village has many attractions and advantages, which are wanting to the solitary cottage.

SECT. II.—*Tenures.*

ALL property holds either of the Crown, or of some subject. In the former case, when of legal extent, it gives a right to vote for a Knight of the shire; but in the latter case, however large, it has not that privilege, and resembles a copyhold in England, with this difference, that the *superior*, or subject of whom it is held, has not equal privileges with a *Lord of the manor*. There are instances of freeholds paying feudal acknowledgments to subjects, some of them to a great amount. This chiefly happens in lands acquired from the Church, of all which the King is *superior*, though the subjects, who first seized or obtained a right to them, afterwards disposed of them at a lower price, under the stipulation

pulation of receiving certain yearly payments in money, victual, or work. No lands, now, are possessed, as they were 30 or 40 years ago, on grants redeemable on certain conditions, known, in the law of Scotland, by the name of *wadsets*. The *feu*, or feudal acknowledgment, is sometimes merely nominal, in which case the tenure is called a *blench* or *blanch* holding; and generally it is a small quit-rent, not always demanded, though on particular lands it is very high. It is commonly commuted into money; but in a few places, it is still exacted and paid in personal services, or in the labour of horses. And according to the usual custom in this part of the kingdom, it is doubled, or considerably increased, on the entry of every successor, whether by inheritance or purchase.

CHAP.

CHAP. III.

BUILDINGS.

SECT. I.—*Houses of Proprietors.*

THE houses of proprietors are so numerous, and so different in size and form, that they cannot easily be reduced to distinct classes. A few of them are ancient and princely; others are modern and elegant; some, by judicious alterations and additions, have been rendered handsome and commodious; very many stand in need of being repaired or rebuilt; several are too insignificant to deserve notice. In situation, magnitude, and grandeur, the house of Fleurs, near Kelso, belonging to the Duke of Roxburgh, holds a distinguished pre-eminence: And there are many neat villas in that neighbourhood, by which its prospects are embellished, and to which it forms a magnificent object. The offices are generally situated near to the house, but out of its view; and, of late, greater pains have been taken, than formerly, to render them ornamental as well as convenient. All the buildings are of hewn or rubble stones, and covered with slates. The smaller proprietors generally build houses for their own residence, of one or two storeys, with clay or lime, and thatched or slated roofs, according to the extent of their properties, their opulence, or their fancies. Attention is shewn to have them substantially done, and to give them a neat appearance.

SECT.

SECT. II.—*Farm-houses, and Offices, and Repairs.*

FEW things are of greater importance in agriculture, than the commodious and comfortable accommodation of farmers, and, happily, it is here much regarded. On farms, where formerly the houses were paltry, or unsuitable, new ones have been built, in a situation, and on a plan, respecting which the tenants have had the chief direction. Where the former houses were in a better style, they have uniformly received such reparations and additions as were found necessary. In every part of the county, they are now mostly of two storeys and a garret-floor, with the addition of a kitchen behind or at one end. Clay built walls, and thatched roofs, though still to be seen, are fast upon the decline; and, if the present spirit continues, will in a few years become a mark of disgrace. In fixing the dimensions, and laying out the apartments of a new house, much depends on the taste of the farmer for elegance or utility. In general, from thirty-six to forty feet in length, and from seventeen to twenty-one feet in breadth, within the walls*, is thought a moderate size; the ground-floor containing an eating-room in one end, and the family bed-room, with a closet behind in the other. The bed is frequently concealed, or thrown into the closet, that this apartment may occasionally serve the purpose of a drawing-room. The second floor, according to the breadth of the house, is divided into four smaller, or two larger bed-rooms with closets, and sometimes into one larger and two lesser ones. Few farm-houses, lately built, are under these dimensions, and several are greatly above them, having a sizeable dining-room and drawing-room, four or five bed-rooms, and a kind of business-

* All the dimensions given in this paragraph are within the walls.

cell-room for the farmer to keep his books, receive and pay money, &c. (one of the greatest conveniencies that he can enjoy), besides a nursery and apartments for servants. In the pasture district, where a thin population makes hospitality more necessary, the tenants are naturally desirous of having many bed-rooms, however small, to accommodate their numerous friends and visitors; and it is not uncommon to crowd two or more beds into one room. At the same time, it must be confessed and regretted, that, through the whole county, a few farmers still prefer the mean habitations, manners, and agriculture of their fathers.

The offices are generally behind the dwelling-house, in the form of a square, that the cattle and work may be under the master's eye; but, in some places, they are removed to a little distance, from feeling the smell to be offensive, and from a fear of its being noxious. They are mostly built with lime, though few of them are slated. Their common breadth is about sixteen feet; the height of the walls varies from seven to ten feet; and, when the dwelling-house forms one side of the square, they consist of two sometimes of three barns, of thirty and even of thirty-four feet in length, on another side; stables for ten, twelve, or more horses, two cow-houses, here called *byres*, for milch-cows and young cattle, on a third; sheds more or less open for feeding from twenty to fifty bullocks, on a fourth. Other sheds for sheltering carts and all other implements of husbandry from the weather, a chaise-house, if the farmer keeps one, as some of them do, a hen-house, a hog-sty, &c. are interspersed among the other offices, according to circumstances and the nature of the farm. These last mentioned form a side of the square, when the dwelling-house does not. There is commonly a dunghill in the middle, where are fed the lean cattle intended to be grazed during summer, and fattened the following winter. Above the stable there is generally

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a hay-loft, where, or above the cow-house, the unmarried men-servants sleep; and frequently there is a granary above one of the sheds, or above the end of one of the barns. A dairy, pantry, and larder are added to the dwelling-house, in the form either of a wing or of a pent-house. The number and dimensions of offices vary according to the size and nature of farms. Where few or no turnips are raised, less housing is needed for cattle, and an arable farm of 200 or 300 acres does not require such ample accommodation as one of 800 or 1000. The introduction of thrashing machines will probably occasion some alteration in the structure of barns, and lessen the extent of roof, which, in an inland country without canals, must be a considerable saving. In places where the offices were only repaired, they are not unfrequently disposed in an awkward and inconvenient manner; and too little attention has been paid, in former times, to the choice of an elevated and level situation for a stack-yard. The older barns are generally too low in the walls, and admit only of very short joists, here called *balks*, towards the junction of the cupples; whereas it is obvious, that the nearer the joists are to the walls, the building must be so much the stronger. A few have lately been built above cart-houses, stables, &c.; a practice both thrifty and convenient, in an unequal surface, where the ground on one side is frequently level with the second floor. One or two are so spacious, and have such large doors, as to admit a loaded cart, and thus save those stalks which drop from the sheaf, and those grains which start from the ears as the corn is tossed down to the ground.

A similar plan is proposed to be adopted in the construction of feeding sheds; the cattle are to be tied, fronting each other, to two rows of stakes, with a space between the rows where carts may enter and unload. At present turnips are laid down in the open air, covered by bundles

of

of straw in hard frost, and given to the cattle through holes, opposite to their heads, over which boards are suspended on hinges to open and shut at pleasure. At Frogden, above 30 years ago, sheds were first made double, with an open space between them, for carrying away the dung, and another before the heads of the cattle for cleaning the manger, and throwing in turnips. This last is always carefully covered with boards, while the cattle are feeding or at rest. In many places, both where they stand along the side of the house with their heads towards the backwall, and where they stand across it, with their heads or tails towards each other, they are fed from behind. The trouble is greater, but they are kept warmer. Milch cows are every where treated in this manner, as warmth is more essential to them than to feeding cattle. The stables are now mostly divided into separate stalls, though there are still many in which the horses feed in common, as several lean carcases testify. Some farmers are borrowing a practice, from their neighbours in Northumberland, of having workshops for different artificers employed in shoeing their cattle, and in making or mending articles necessary for carrying on their work. Their wood, iron, and other materials, are thus wrought under their immediate inspection; the time and labour are saved of sending their servants and horses to the nearest village for every trifling job; a small additional wage, or even good fare, will insure the ready attendance of able workmen; and every thing is gain to a farmer that promotes dispatch, cuts off from his servants all pretence of loitering, and keeps his horses from unnecessary travel.

When a farm-house and offices are to be new built, the tenant sometimes receives a stipulated sum, about a year's rent, for executing them on a given plan; but more commonly the landlord pays the materials and workmen, and the

the tenant carries the one, and furnishes meat and *service* * to the other. Both methods lie open to objections. In the one case, the tenant may be tempted to make such superficial work, as to last during his lease, and, with some slight reparations, be left barely passable at the end of it. And, in the other case, a great deal of his time, labour, and money, is taken up, which, especially in the beginning of a lease, would be much better employed in improving and cultivating his fields. A preferable way would be for the landlord to do the whole substantially, according to a concerted plan, and charge some additional rent on the tenant. This has been done, in some instances, without any such charge. At present, for the sake of cheapness, the houses are often finished by contract, with those who offer the lowest estimate, and who, to earn a scanty profit, furnish only coarse materials, use them sparingly, and hurry on the job in a careless and slovenly manner. Both dwelling-house and offices are supported, during the currency of a lease, sometimes at the sole expence of the tenant, though more frequently the landlord allows all or some part of the materials.

Reparations and additions, necessary to houses at the entrance to a farm, are made at the charge of the proprietor, with or without the aid of the tenant, according to agreement. Here, as in the former case, a year's rent, or perhaps less, if the buildings are of a moderate size, and in tolerable order, is sometimes accepted by the tenant. But unless the situation be central and convenient for the farm, it is the interest of both to have the whole houses removed and rebuilt.

SECT.

* *Service* is a provincial phrase for labourers, to dig away earth from the foundation of a house, prepare mortar, and assist in rearing scaffolds, carrying stones, joists, &c.

SECT. III.—*Cottages.*

HITHERTO they are mostly built with clay, and few, if any of them, are slated. Those erected for shepherds are miserable temporary hovels. Their walls are alternate rows of stones and sods, and their roofs are of coarse and slender timber, covered with turf and rushes. A hole in the middle of the roof, surrounded at the top, and a little way down into the house, by a wicker frame, plastered with a mixture of straw, mud, or clay, is the only chimney. A small aperture, with a single pane of glass, and sometimes altogether open, and stuffed at night with old clothes, serves for a window. The same kind of chimney, placed at the gable, with the wicker or a spar-frame, or a thin stone-wall, supported by a strong beam, about four or five feet from the ground, is still used in many of the best cottages, and even in the kitchens of farmers. In general, however, artificers and married labourers are well accommodated. The former have a workshop and kitchen, and often a better apartment. The latter have a kitchen, and a room where grown-up children sleep, provided by their master, if they are at service; or rented in some village, if they are not. The walls are about seven feet high; the windows are of different sizes, from fourteen inches square to four by three feet; the floor is of earth, nicely knead; sometimes of flags or timber. There is a garret above for fire-wood and lumber; the roof is neatly thatched with straw, fern, or broom; and both without and within, every thing has a snug and comfortable appearance. In short, though cottages may be found of every intermediate degree, between the worst and the best of those described, yet every year lessens the number of those that are pitiful, and adds to the number of those that are decent and respectable.

CHAP. IV.

MODE OF OCCUPATION.

SECT. I.—*Size of Farms, and Character of Farmers.*

THE small possessions, which lie around villages, or are scattered through different parts of the county, whether in the hands of proprietors or of tenants, cannot be called farms. The occupiers of them are chiefly mechanics, cadgers, or jobbers* with horses, at different kinds of country work, who find it necessary, for maintaining their cattle, to have a piece of land, which they can labour at their spare hours. Setting these aside, and taking into account only such as are of sufficient magnitude to support a family, the farms in Roxburghshire are of every size, from 50 to 5000 acres, and from L. 30 to L. 1000 of annual rent. The arable farms, in general, run from 150 to 500 acres, and from L. 100 to L. 400 of rent. Some are less, and others greater; but the most extensive of them does not exceed

* A considerable number of men, in this county and the neighbourhood, earn a comfortable subsistence, by keeping one or two horses and a cart, and undertaking to make or repair highways, to carry materials for building, coals, lime for manure, goods to or from market, or to plough fields; and they contract to perform these operations by day, by measurement, by weight, or by the lump, according to the nature of the work or things carried. These men are here meant by jobbers.

seed 1200 acres, and none is rented higher than 1000 guineas. One tenant frequently possesses two, and sometimes three; and there are instances of the same person having both an arable and a sheep farm, to obtain the double profit, arising from rearing sheep to a larger size, by wintering them on aftergrass and turnips, and fattening both them and their lambs earlier, and better, for the market. With the breeders of that valuable animal, the command of turnips is becoming daily a greater object, and may prove an inducement to engage them more deeply in arable husbandry, instead of accumulating pasture farms. Several of these, in different corners, to the extent of 6000 and even 8000 acres, are rented by one man. A confidential servant, who is commonly married, resides, with his family, on these *led** farms, and takes charge of the work and servants in the master's absence. From 800 to 3000 acres is the most common size of a sheep farm.

The character of farmers, like the size of their farms, admits of much variety. No profession affords more scope for displaying abilities; and no county can boast of a more ingenious and respectable body of farmers. Many of them have received a classical, and some a liberal education. While the cultivation of their fields, and the state of their flocks and herds, are pleasing proofs of active industry and professional knowledge, the style of their dress, and of their tables, are indications of easy circumstances; and the general strain of their conversation and manners discovers that frankness and candour of mind, which is unfettered by prejudices of every kind, and equally open to impart or receive information †. It cannot be expected, that this description

* This is the common name here, and through most of Scotland, for farms on which the tenant does not personally reside.

† See Stat. Acct. of Kello, Vol. X. p. 589.

scription is equally applicable to them all. The very reverse of it may rather be considered as a just portrait of several tenants, who possess pretty large farms, and have become rich from mere penuriousness, yet are ignorant, vulgar, and unambitious of being distinguished, in point of dress, fare, and habits, from their own servants. Between these extremes, there are, among the farmers, characters of every intermediate degree. But the happy alteration which has taken place, both in the system of agriculture, and in the way of living, is slowly extending its influence to the narrow-minded and slothful. From the slight trials of a fearful hand, they are daily making bolder efforts, to break up, clear from stones, and enrich with lime and marl, fields in a state of nature; to straighten crooked ridges, and to raise turnips and clover. Greater indulgence is shewn to land, after being limed. A more liberal rotation of crops is gaining ground. Grain is more carefully winnowed from the chaff. Horses are kept cleaner, and better fed. Finer linen, and more decent clothes, are worn. The carpet, the spit, and the social bowl, begin to make their appearances in houses where they were entire strangers. And a desire is evidently kindling, of mixing more in good company, of keeping a more plentiful table, and of learning the practices, and sharing the profits of good husbandry. Besides these symptoms of improvement, several circumstances combine to promise the gradual extinction of this old-fashioned class. At the expiration of leases, proprietors of sound understanding will naturally prefer to them, on equal, and perhaps on easier terms, tenants, whose enlarged ideas afford a fair prospect of bringing the lands into richer cultivation. Farmers of this description will even stretch a point to outbid men who bring discredit on their order; and enjoy, in the competition, all the advantages, which knowledge, address, and spirit, have over ignorance, awkwardness,

wardness and timidity. The rapid progress of improvements has so greatly raised the rent of land, that, without enterprise and skilful management, no farmer can prosper. And the most rigid parsimony cannot save from ruin those, who trudge in the beaten tract of their fathers.

While necessity quickens the industry and invention of some, others inherit these qualities from nature. Several farmers in Roxburghshire, originally servants, or bred to some other profession, have risen to eminence by the dint of superior talents and merit, and contend for the palm of good husbandry with those who were trained up to it from their youth. Among the higher classes of farmers, a spirit of laudable emulation has gone forth, to keep their fields in proper order, and to raise those kinds, and that succession of crops, by which their lands may be cultivated to the best advantage. From their frequent intercourse with each other, and with strangers, and from the books which they purchase, or peruse from those public libraries, of which many of them are members, they have access to become acquainted with the most approved practices in the line of their business through the kingdom, and have discernment to avail themselves of every hint, whereby their farms may be further improved, and the science of agriculture may be brought to higher perfection. They are likewise entitled to much praise for the plainness and good faith of their dealings. Bargains are not made with less chicane or higgling, or fulfilled with more honour, by the first houses in the kingdom. Those excesses of the bottle, both in ale-houses and at home, which formerly characterized them, and led to the neglect of necessary business, have now given place to the more rational and temperate use of that cheering enjoyment. They are still extremely social when they meet, and hospitable to strangers; but seldom indulge in these pleasures to such a degree, as to divert their attention from their more important concerns.

SECT. II.—Rent.

ALL farms, till very lately, were let by the lump: This is still the case in the pasture district; but some of the arable farms are taken by measurement. A few small spots are occupied in nurseries, gardens, and orchards, at the rate of L. 5 *per acre*. Some fields around the principal villages are rented at L. 4, and several at L. 3 *per acre*. There are not fewer than 300 acres at these high rates. The quantity, which fetches from L. 2 to L. 3 *per acre*, cannot be estimated with any certainty. It is not less than 5000 acres, and will not probably exceed 10,000. The highest rent, given for a farm of any considerable extent, is two guineas *per acre*. From 20 s. to 25 s. is very common for farms of 300 or 400 acres. A few farms, much larger, fetch 20 or 21 s. *per acre*. But very great tracts do not yield 7 s. 6 d. and cannot be expected to double that rent, unless improved by the proprietor, at an expence which no tenant can bear*. Pasture farms are let from 1 s. 1 d. to 5 s. 6 d. *per acre*; and considering the different qualities of soils and climates, it is easy to conceive that the highest rented may be the most eligible bargain. Their value is chiefly enhanced, by the luxuriance and dryness of the soil, the quantity of sheltered pasture which they afford in severe winters, and the proportion of land capable of producing natural or artificial grasses for hay. Their value is lessened, by the height and exposure of their situation, their extent of barren

* From some remarks made on Mr Ure's report, as well as from the opinion of several well-informed people in the county, I was inclined to state the average rent of pasture-lands at 3 s. 6 d. and of arable-land at 18 s. 6 d. *per acre*, till I found, upon an extensive inquiry, that the average which I have given, though rather low, is nearer the truth. But there can be little doubt, that, in a very few years, when the present leases expire, many of which were granted a long time ago, the average will rise at least one fourth above what it is at present.

ren surface, and the penury and coarseness of the food which they furnish.

To draw, in rent, any part of their produce, would occasion perpetual disputes between the landlord and tenants, and would diminish the value of the remainder. Sheep, wool, and cheese, would sell at a lower price, after being thus divided. Though the same objection does not lie against drawing the rents of corn-farms in kind, yet here too there are insurmountable difficulties. For, not to mention the wrangles which might arise concerning the quality of the grains, and various other particulars, the distance from markets, and the expence of a long land-carriage, would put the proprietors to no small inconvenience in disposing of their victual. Purchasers would not send for it to the spot where it is thrashed, without a great discount. And to devolve on tenants the burden of delivering it at the distance of 24 or perhaps 30 miles, would be a cruel addition to the heaviest of all the local grievances which they suffer. For these substantial reasons, all rents are paid in money; and personal services, though still exacted, are on the eve of abolition. Tenants, on arable farms, instead of having time to drive coals or other articles to their landlords, are sometimes obliged to hire the carriage of fuel and manures for themselves. And sheep-farmers keep no more horses than are necessary, for bringing home their winter's provision of peats, turf, and coals, and for managing the patches of arable-land which are attached to their farms. A certain number of tame-fowls, and in some places of fresh-water fish, is generally a part of the annual-rent, but seldom exacted in kind*. In short, both master and
tenants

* I am sorry to be informed, that personal services are still exacted in kind, both from tenants and vassals, by one very considerable proprietor; and

tenants find it their mutual interests to convert all payments into a specified sum of money; by which they become alternately losers or gainers, according to the rise or fall of markets.

SECT. III.—*Tithes.*

ONE or two clergymen have a right to some tithes, but have been in use, time immemorial, to accept a small sum in lieu of them. This is a loss to them, but a material advantage both to the proprietors and tenants of the grounds, who are thereby freed from a vexatious obstacle to useful improvements*.

SECT. IV.—*Poor-Rates.*

THERE are 979 paupers maintained constantly, by an assessment of L. 2776 yearly, the interest of L. 2148 sunk in different parishes, and the weekly collections at the church-doors, which may amount to L. 400, making in all L. 3283, 8s. of yearly expenditure; of which, if L. 300 is allowed for cases of incidental necessity, there will remain a mere trifle over an average of L. 3 Sterling each for the settled pensioners, who receive their allowances weekly, monthly,

and that he positively refuses to accept a reasonable commutation for them. Nor will he consent to exchange a single inch of land, for the accommodation of his own, or of neighbouring tenants; perhaps from a desire of transmitting the limits of his property in the precise state in which he found them. I forbear to comment on these prejudices; and I am not without fear of being accused of credulity, for believing that they exist at the close of the eighteenth century.

* Since writing the above, I learn that a clergyman has actually drawn, in 1796, the tithes of lamb, wool, *green* or new pulled lint, and natural hay, in kind, from one part of his parish, and has farmed the tithes of these articles in another part.

ly, or quarterly, according to the practice of different parishes. The assessments are levied, in terms of the law, in equal shares from the proprietors and tenants, and every year are increasing. The above statement, taken chiefly from the Statistical Accounts of the different parishes, collected and published by Sir John Sinclair, so far as they furnish information, and from the kind communications of private friends, where these Statistical Accounts are defective, reaches no further than 1793; since which time, the prices of provisions are doubled, and the poors-rates are raised at least one-third. Their introduction, though attended with several advantages, is nevertheless to be regretted. It was formerly the fashion for people, of all ranks, to attend public worship, and to give liberally to the poor. The weekly collections were committed to the care of the kirk-session, a set of grave and active men, who, without any emolument, industriously sought out and relieved the modest objects of charity. By the prudence and frugality of their management, the wants of the needy were supplied, and a small fund was amassed, in many parishes, to be lent on interest until a time of extraordinary scarcity should arrive. These men still continue to act with the same disinterestedness and attention; but the absence of some proprietors from the county, the desertion of public worship by others, the scanty contributions of those who attend, because of their being subjected to an assessment, and the natural effect of this general conduct to contract the *public* bounty of the truly charitable, together with the practice, in several places, of demanding one-half of the trifle that is collected to augment the parochial funds, leave very little in their power to manage or bestow. From this change two serious evils arise. One of them is, that the poor no longer receive supply, with backwardness and gratitude, a charity from the administrators of public bounty, but claim
it

it boldly as their legal right; and in expectation of it, relax their diligence and œconomy: And the other is, that the numerous class of servants and day-labourers, many of whom are in easy circumstances, cease to contribute their mites, from an idea, that any little thing which they could spare would not serve the poor, but go into the pockets of the landholders and their tenants. Yet, in the present state of society, when religion is in so little request among the higher ranks, and they, who still respect its ordinances, are divided into so many sects, the poor-rates have the advantage of subjecting all men equally, according to their possessions, to the necessary burden of supporting the indigent. If there be an alarming prospect of this burden's becoming annually heavier, let the rich and the great reflect, that the best preventive is, their regularly attending the national church, and encouraging others by their example to enlarge the weekly collections. Such a conduct might have the double effect of lowering the assessments, and of acquiring such a kindly influence over the poor, as would foster their natural shame to apply for charity, except in the most urgent necessity, and quicken their efforts to provide against it. A law might be made obliging sectaries to maintain their own poor, or add their collections to the parish funds: but it would be oppressive, as they pay their share of assessments in the different parishes to which they belong; and it would serve no other purpose, than affording a plausible pretence to the opulent among them to withhold their contributions, and putting a cruel constraint on the poor to adhere or return to the established church. Yet, while matters continue as they are at present, the number of poor, and the funds for their support, must yearly increase.

SECT. V.—*Leases.*

THERE is a difference in the duration and conditions of leases in the pasture and arable districts. In pasture farms, they are generally from seven to fifteen years; a few are nineteen and twenty-one; and the tenants are subjected to no restrictions, except with respect to the quantity of ground to be sown with grain. Here, the only improvement being a kind of open drains, which are made at a trifling expence, and need to be repaired annually, or completely renewed every fifth or sixth year, the length of a lease is of less consequence. But in arable farms, where a great deal of money must be laid out for several years successively before a suitable return can be expected, and where a constant supply of manure, and the frequent recurrence of crops rather meliorating than profitable, are requisite to preserve the lands in good condition, leases are given for nineteen or twenty-one years. The stipulations in them vary, according to the fancies of different landlords, the objects they have in contemplation with respect to the farms, or their opinion of the tenants. In some entailed estates, a little more rent will purchase an exemption from all limitations. In general, however, strict provision is made to prevent the lands from being impoverished by severe cropping towards the end of leases. The common restrictions, insisted upon with this view, are, that a certain portion of the farm shall be left in grass, in fallow, or in a green meliorating crop, according to the nature of the land; that the straw raised shall be consumed on the farm, except the last crop; that all the dung made shall either be laid on the land, or belong to the succeeding tenant; that, for the last three, five, or seven years, two white crops shall not be taken successively from the same field, except perhaps when first broken up from
old

old grass, or richly manured; and, that even in these excepted cases, not more than two shall be raised. All these conditions may seldom, if ever, be found in a single lease; but there are few leases, in which one or more of them are not required.

The inclosure of lands occasions specialties in leases. Fences have sometimes, though very rarely, been made, during the currency of a lease, at the expence of tenants, on their being reimbursed at the end of it, or receiving then the real value of the fences, according to the appraisement of arbiters. In this case, they take care to keep the fences in proper order, that they may draw the larger sum. Fences have likewise been made by landlords, under the direction of the tenants, and on condition of their paying a certain interest on the money expended, and upholding the fences. In this case, they have been frequently neglected. Both these methods have lately given place to a third, which is found to be more effectual for preserving the fences, and less burdensome to the parties concerned. Fences are now often made, and always upheld, at least for the first seven years of a lease, at the mutual expence of the master and tenant; the former laying out the money, and charging one-half of it on the latter, who willingly pays it, to be freed from the trouble of attending to them, and employing his servants in repairing every breach or gap. When there is wood upon their farms, tenants come under strict obligations to preserve it: but, when it is so young as to stand in need of being inclosed, the proprietor commonly takes the charge of repairing the fences.

Tenants are usually, though not always, debarred from subsetting their farms; and are obliged to uphold and leave the houses upon them in a habitable condition. The entrance to farms, both in the pasture and arable districts, is generally at Whitsunday; and to such parts of them as are
under

under corn, at the separation of the crop. Rents are commonly paid, in equal halves, twice in the year. The first half year's rent becomes due at the Martinmas after the tenant's entry, and the second at the Whitsunday; but they are rarely exacted till the Candlemas or Lammas following. In many corn-farms, these half-yearly payments do not take place till the tenant has reaped a crop. There may be a few instances of leases commencing at Martinmas, and of rents being paid only once a-year. Leases for one or two lives were more common formerly than they are at present. Perhaps there are not more than three or four of them in the whole county. The more reprehensible practice of letting long leases at a low rent for a sum of money, though much on the decline, has not entirely ceased. Several farms were some years ago, and a few are still, possessed without leases*. There may be other singularities in them, all of which it is impossible to mention.

SECT. VI.—*Expence and Profit.*

NOT being myself an actual farmer, and thinking it rather indelicate to trouble those friends, for information on this subject, to whose liberal communications I am so much indebted in other respects, I can only give a general sketch, from conjecture, of the expence and profits of an arable and pasture farm, at the average rent of the county.

1. Of an arable farm of 400 acres, the rent at 15 s. per acre, is	L. 300 0 0
Carried forward,	L. 300 0 0

* In Chapter XVI. I have taken the liberty to offer some observations on the subject of leases.

Brought forward,		L. 300 0 0
1. To 9 work and 1 saddle-horse, at		
L. 20,	L. 200 0 0	
2. To 40 black cattle, of all		
ages, at L. 6,	240 0 0	
3. To 8 single carts, at L. 6, 10s,	52 0 0	
4. To 5* ploughs and 3 pair of		
harrows,	16 10 0	
5. To † cart and plough harness,	16 16 0	
6. Thrashing-mill and fans,	40 0 0	
7. A variety of small articles,	10 0 0	
	L. 575 6 0	
2. Interest on that sum, at 10 per cent.		57 10 0
1. To 20 black cattle, bought at		
Whitsunday, for the pas-		
ture and after-grass, at L. 8		
each,	L. 160 0 0	
2. To 20 ditto, bought at Lam-		
mas, for grass and turnips,		
at L. 10 each,	200 0 0	
	L. 360 0 0	
3. Interest on this sum, at 5 per cent.		18 0 0
4. To 12½ bolls of seed-wheat, at L. 1, 16s.		
for 25 acres,	22 10 0	
5. To 30 bolls seed-barley, at L. 1, 5s. for		
50 acres,	37 10 0	
Carried forward,	L. 435 10 0	

* Valuing the ploughs only at 2 guineas, and the harrows at L. 1, 4s. per pair.

† This article varies so greatly, according to its quality, that it is very difficult to hit upon a proper medium. I think it rather under-rated.

OF ROXBURGHSHIRE.

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	Brought forward,	L. 435	10	0
6.	To 36 bolls seed-oats, at L. 1, for 50 acres,	36	0	0
7.	To 12½ bolls seed-pease, at L. 1, 10 s. for 25 acres,	18	15	0
8.	To clover, 5½ cwt. at L. 4, 4 s. per cwt. and 50 bushels rye-grass, at 4 s.	33	2	0
9.	To turnip-seed for 46 acres, at 6 d. per lb. and potatoes for 4 acres, at 10 firlots per acre, and 2 s. per firlot,	5	3	0
10.	To wages and maintenance of 4 men-ser- vants, at L. 18 each; and of 2 boys, at L. 14 each,	100	0	0
11.	To wages and maintenance of 3 maid-ser- vants, at L. 12 each,	36	0	0
12.	Extra-labour at gathering stones and weeds, hoeing turnips and potatoes, hay and corn- harvest, &c. 250 acres, at 6 s. each,	75	0	0
13.	Maintenance of 10 horses, at L. 13, 10 s.	135	0	0
14.	Taxes, shoeing horses, cleaning ditches, re- pairing fences, and pocket-expences, at L. 1, 5 s. per week,	65	0	0
15.	Interest at 7½ per cent. on money sunk on household-furniture,	15	0	0
	Gross yearly expenditure,	L. 954	10	0

P R O D U C E.

1.	To 25 acres of wheat, at 4 bolls per acre, or 8 from the seed, being 100 bolls, at L. 1, 12 s. or L. 6, 8 s. per acre,	160	0	0
2.	To 50 acres of barley, at 4 bolls per acre, or 6½ from the seed, being 200 bolls, at L. 1, 1 s. or L. 4, 4 s. per acre,	L. 210	0	0
	Carried forward,	L. 370	0	0

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	Brought forward,	L. 370	0	0
3.	To 50 acres of oats, at 5 bolls <i>per</i> acre, or very near 7 from the seed, being 250 bolls, at 18s. or L. 4, 10s. <i>per</i> acre,	225	0	0
4.	To 25 acres of peas, at 3 bolls <i>per</i> acre, or 6 from the seed, being 75 bolls, at L. 1, 10s. or L. 4, 10s. <i>per</i> acre,	112	10	0
5.	To 50 acres clover, at 150 stones <i>per</i> acre, and 4½ d. <i>per</i> stone, or L. 2 : 16 : 3 <i>per</i> acre,	140	12	6
6.	To 46 acres of turnips, at L. 2, 10s. <i>per</i> acre,	135	0	0
7.	To 4 acres of potatoes, at L. 10 <i>per</i> acre,	40	0	0
8.	To 150 acres pasture, at L. 1 : 2 : 6,	168	5	0
	Gross annual produce,	L. 1191	7	6
	Deduct 10 <i>per cent.</i> for losses by vermin, weather, and bad debts, and also for accidents happening to horses, cattle while feeding, &c. &c.	119	2	0
	Real produce,	L. 1072	5	6
	Deduct expenditure,	954	10	0
	The farmer's yearly profit,	L. 117	15	6

This profit is certainly much smaller than what is due to his industry and risk. But it may be increased by his prudence in guarding against those losses and accidents, for which he is allowed no less than 10 *per cent.* of the whole gross annual produce. It is impossible, indeed, to protect hay from being injured by inclement weather, or corn from being destroyed both by it and vermin, or cattle from being choked with turnips, or perishing by eating wet clover; yet much may be saved by activity and diligence, which would be lost by indolence and inattention; and, by dealing
always

always for ready money, or with safe hands for a moderate profit, he may avoid the danger of suffering from bad debtors. Besides, I have only calculated the actual value of his hay, pasture, and turnips, supposing them to be sold or let, without taking into the account either the second growth of clover, or the profit which he makes by using them himself. Whatever gain graziers would make by renting his pasture fields, at L. 1 : 2 : 6, or his turnips, at L. 2, 10 s. *per acre*, goes into his own pocket, if he feeds cattle upon them. Nor is it immaterial to observe, that, on every arable farm in this county of the extent supposed, a greater or less quantity of sheep is now kept, from which some additional profit is derived. But to have brought all these articles into my computations, would have rendered them too complex. It may be proper, likewise, to mention, that I have reckoned upon a horse, a plough, and a pair of harrows, more than are absolutely necessary for carrying on his work, from an idea, that it is good management to have a spare horse, for bye-jobs, or for preventing the least stop in case any of the labouring ones should chance to be disabled, and also some spare implements, in case any of these commonly used should fail.

A PASTURE FARM of 2600 Acres will maintain 2000 Sheep.

The rent of it will be at 3 s. <i>per acre</i> ,	L. 390	0	0
Prime cost of 2000 sheep of all kinds,	L. 1800	0	0
Interest thereon at 5 <i>per cent.</i>	-	96	0
Salving, at 4½ d. each sheep,	-	37	10
Wages, &c. of 3 shepherds, at L. 20 each,	-	60	0
Drains, and annual expences,	-	15	0
Gross annual expenditure,	L. 592	10	0
After			

After making allowance for casualties, the produce of the sales will be,

Lambs, great and small, 200, at 6 s. each,	L. 60	0	0
Young wethers, 260, at L. 1 each,	260	0	0
Ewes, 260, at 15 s. each,	195	0	0
1890 fleeces, at 2 s. 6 d. each,	236	5	0
Annual produce,	L. 751	5	0
Deduct amount of expenditure,	592	10	0
The farmer's yearly profit,	L. 158	15	0

An actual sheep-farmer has favoured me with the following statement, which I have taken the liberty of abridging and arranging in a more concise order.

The stock on a breeding farm, where the farmer sells his wethers at $2\frac{1}{2}$ years old, to be put on turnips, supposing the herds to be paid in money, and the farm to winter 2000 sheep, will at Whitsunday yearly be nearly as under :

1000 ewes, at 20 s.	-	L. 1000	0	0
600 ewes and wether-hogs, (a year old), 13 s. 6 d.	405	0	0	
280 dinmonts, (wethers, two years old), 16 s.	224	0	0	
20 old tups, at 40 s.	-	40	0	0
1900 *		L. 1669	0	0
Interest on this sum, at 5 per cent.	-	L. 83	10	0
The rent as formerly,	-	390	0	0
Salving as formerly,	-	37	10	0
Carried forward,		L. 511	0	0

* In this number, the lambs of the season, then following their mothers, are not included.

Brought forward,	L. 511 0 0
Herds as formerly,	60 0 0
Drains as formerly,	15 0 0
Grass during summer for 33 score, or 660 lambs,	16 10 0
	L. 602 10 0

In this way of stocking the farm, all the sheep are clipped, except such as die. There will, therefore, be sold nearly 20 packs of wool, at L. 11 per pack, L. 220 0 0

Of small lambs, at 5 s. each, he will sell in the month of July 140, 35 0 0

In the month of October, he will sell of ewes 280, at 15 s. 210 0 0

And at the same time, of weathers, 280, at 17 s. 238 0 0

In such a farm, the ewes being generally milked, their produce in that way, with a few tups sold, the skins of sheep and lambs which die, and the wool plucked* from udders, will yield about 50 0 0

Gross annual produce,	L. 753 0 0
Deduct the annual expenditure,	602 10 0

The profit nearly as formerly; is L. 150 10 0

To this calculation, much more respect is due than to the other. In explanation of it, I beg leave to observe, that 2000 sheep are made up, to be kept during winter, as under :

At Whit Sunday, there were on the farm precisely, of all ages,	-	-	-	1900
Sold of ewes,	-	-	-	280
— of wethers,	-	-	-	280
				560
Remain only,				1340
Supplied by 33 score or 660 lambs,				660
				2000

* See this practice explained in Chapter XIII. Sect. 2.

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It is manifest that these profits, both on an arable and a sheep farm, are too small, to enable a tenant to live comfortably, to maintain and educate a family, and to exercise hospitality. From whence it seems to follow, either that he must observe rigid parsimony, or that he must possess more farms than one. But by judicious management, he may keep his stock and implements in good preservation, and thus add, to his yearly income, the whole or greatest part of the interest charged on their value. Besides, it is not uncommon to have two or more farms, or one of greater extent than those from which the above computations are made.

The preceding calculations are founded upon a medium between the former low and the present high prices. Some years ago, the farmer's profit was much less. At present, it is much greater. In proportion as it increases, the rent of land will rise.

CHAP.

Remains only
1710
666
1044

CHAP. V.

IMPLEMENTS.

THE Scotch plough, with a long stout beam, and a long narrow point, though still used in stiff clay land, especially when it is to be broken up from grass, and even in light soil, when the furrow is interrupted by stones, has in general given place to the Rotheram plough, improved by Small. The former is thought by some to expose a larger surface to the atmosphere, by which the soil, when harrowed, admits of a finer pulverization; but the latter is allowed to make a neater furrow, as well as to loosen and turn up more earth from the bottom. It is commonly made exactly according to Mr Small's model*, with this difference, that the beam is two, and sometimes even four inches longer. The moulds (or mould-boards as they are termed) of cast metal, recommended by the Dalkeith Society of Farmers, are much used; and the head or peak, instead of being covered with plates of iron, is not unfrequently made wholly of it, or of cast metal. The *shath* too

* See his Book on the Subject, printed at Edinburgh. 8vo. 1784.

too or *sheath**, including the head or peak, is sometimes one entire piece of cast metal. Opinions differ with respect to the structure of the muzzle. All ploughs have a rod of iron, doubled so as to embrace the beam either perpendicularly or horizontally, with four or five holes in that part of it which crosses the point of the beam, in one or other of which the harness is fixed. This *bridle*, as it is here called, moves upon a strong pin piercing the beam, about four or five inches from its point in some ploughs, and in others about fifteen or sixteen inches. In the former case, the bridle is placed horizontally, and has a long tail, by means of which, the depth of the furrow can be regulated. In the latter case, a piece of wood, with four or five holes in it, is fixed to the end of the beam, sometimes in a horizontal direction, to regulate the width, and sometimes in a perpendicular direction, to regulate the depth of the furrow, by means of the bridle, which is always placed the opposite way from the piece of wood. This structure is preferred, as making the draught more steady. And some use a chain, partly to strengthen the beam, and partly to assist the movement of the plough, in very stiff soil, by the shake which it occasions.

The plough is drawn by a strong stretcher, commonly called a *two-horse-tree*, with an iron staple in the middle, and a hook in it to go into one of the holes in the bridle, and with two iron ends, in each of which there is a hole to receive a smaller hook coming from the middle of two lesser stretchers, or *single-horse-trees*, to whose extremities the ropes were formerly tied, and now the chains are fastened,

* I do not know the proper English name for this part of a plough. It is called *sheath* in a great part both of England and Scotland, and by some classic writers on agriculture. The annexed Plate will enable the reader to understand the part of the plough that is meant.

ed, which reach from both sides of the collars of two horses placed abreast.

The common harrows are chiefly used, but are made in a neat and substantial manner. The thick bars are not weakened by large round holes, to admit stout rods, but are pierced by narrow oblong flits, into which thinner bars are nicely and firmly mortised. To prevent one from jutting above another, they are joined together, sometimes by a strong stick, each end of which moves upon a pivot, and sometimes by a ring sliding on two iron-rods fixed on the approximating bars of each harrow; but the most common contrivance is, two or three pieces of wood, placed erect or obliquely on the extremity of the foremost or left-hand harrow, and also of the middle one when three are drawn together. The improved harrows by Mr Low at Woodend, a plate whereof he has given in his "General View of the Agriculture of Berwickshire," have made their way into the lower part of this county, and have received still further improvement from Mr Dawson at Frogden. He draws them by the ends instead of the middle of the stretcher: He places the two hinges exactly on the same line of draught; and he strengthens the principal bars, by the addition of a few diagonal ones. Two chains, fixed both to the harrows and the stretcher, meet at two and a half feet from the harrows, and are fastened to the *two-horse-tree* already described. The harrows are in the form of a rhomb, deviating from the square as far as is necessary to make the teeth or tines cut the ground at equal distances from each other. Harrows, when square, or of an improper rhomb, may nevertheless be made to go over a larger surface, and to cut it at more equal distances, by lengthening one chain, and shortening

shortening the other, till the line of draught is brought to the degree of obliquity required *.

Few or no waggons are now to be found in the county. Nor are two-horse carts so numerous as they were some years ago. There can be little doubt that they would be every where superseded by single horse ones, did not the frequent and steep pulls, in the public roads, along which heavy carriages pass, and in several parts of many farms, require two horses. The dimensions of both vary so very much in length, breadth, and depth, as not to be easily reducible to an average standard. The single-horse carts, in general, are about 16 cubic feet, and hold about 16 Winchester bushels of marl or lime in shells, or 10 cwt. of coals. The two-horse carts are about 25 or 26 cubic-feet, and for every such foot hold a Winchester bushel of marl, or of lime in shells, or 16 cwt. of coals. Both kinds carry more on particular occasions, but are then heaped, or perhaps are of larger dimensions. The body is always strengthened by iron stays, tightened by screws. The height of the wheels is from 4 feet 2 inches to 4 feet 6 inches. Iron axles are much used; and they are commonly cased in wood, to render their concussion less hurtful to the horses. There are many timber ones; and they would be still more general, were it not for the danger and inconvenience of their failing in long journies with heavy carriages. Some are of timber, with iron ends having long tails, bolts, and screws. There is a common cart at Riddel, with an additional wheel before to ease the horse's back. Frames are often put above the common carts for carrying hay, corn,

or

* A plate of a plough, and of Mr Dawson's harrow, is annexed. From the last, the reader may see, that it makes no fewer than 36 ruts at equal distances.

or straw, adding about five or five and a half feet to their length, and about three or perhaps three and a half feet to their breadth. But long-bodied carts still continue to be made for these purposes, generally, but not always, with a kind of wings projecting quite over the wheels, supported in the middle by a board set across the top of the cart, and at each end by stout rods resting on cross bars, which, with that view, jut out from the bottom of the body: such a cart is commonly about ten feet long, by seven feet in breadth. It carries a larger load than a frame, and can be more safely conducted through fields that are sidelong and uneven: But it is more bulky and incommodious in the shed, and cannot be laid up or brought forth so quickly, and with so little trouble.

Both Cook and Perkin's patent machines, for sowing different grains in rows, have been tried in this county. They are so constructed, as to make the rows at any distance from 9 to 36 inches. I saw a field of barley, which had been sown with the one, and a field of wheat, which had been sown with the other, in drills nine inches asunder. Both were upon a declining surface, and both looked well. Though apparently thinner than what were sown broadcast on part of the same fields, yet the ears were longer, and the grains in them were larger *. There are other machines for sowing

* Mr Church at Mostower, having seen in England a drill-toller, with iron-rings at the distance of nine or ten inches from each other to make gentle ruts in the ground, into which the seed, when sown broadcast, naturally slides, or is shoved by the harrow, thought the same purpose might be as well answered by making very slight furrows with a small plough, and follows this method successfully, especially where the land is likely to produce weeds. When these spring up, they can be more easily pulled by the hand, or cut with a hoe, by the corn growing in rows; and when the crop is luxuriant, all appearance of drills is lost long before the approach of harvest.

sowing turnips, on ridges previously formed by laying together two furrows with a common plough. These are of different forms, mostly drawn by horses, though some are drawn, and others pushed forward by men. All of them have a small coulter to make a slight furrow, or rather rut, on the summit of the ridge, into which the seed drops through a narrow pipe or funnel, immediately behind the coulter. A very light roller precedes the coulter, to smooth the summit of the ridge, and is so long as to go over the one last sown, and cover or gently press down the seed. Some of them have a little barrel, moving on an axis, with holes through which the seed falls, and others have a kind of cannister, from which it is shaken, into the funnel or upper end of the pipe. They generally go upon two slender wheels, from two to three feet asunder, according to the distance at which farmers chuse to make their ridges. But, where the top of the ridge is tolerably smooth, many prefer one wooden wheel, about two and a half or three feet in diameter, and three inches broad in the rim, to go along the very summit before the coulter, and another wheel, less and lighter, to follow it. In this machine the barrel is always used, and turned round, by a pinion, or else by a band connected with the foremost wheel. A very small and light plough, with moulds on each side to shift at pleasure, is drawn by one horse between the rows of potatoes or turnips after they advance a certain length, to suppress weeds, and to stir and lay up fresh earth, from time to time, around the plants.

A portable instrument, for hoeing drilled crops, was made, by the direction of an ingenious young farmer in this county, from a description which he read of it in a publication by an Agricultural Society at Bath. When it is carried to or from the field, the beam folds back between the handles.

dles. When used, one man draws it by the beam, and another directs it by the handles. Instead of a coulter and share, it has only a hoe, which cuts the weeds immediately below the surface; and a larger or smaller hoe can be put in it, according to the width of the drills. In fields free from stones and well dressed, it is very effectual and expeditious.

Brake-harrows, with huge teeth *, some of them very heavy, are used on ground, that is newly broken up, or full of clods, or overrun with inveterate weeds. Rollers, also, both of wood and stone, abound every where, and are of very different sizes and weights. It is difficult to manage a strong clay soil without the aid of both these instruments. Mallets, too, are necessary to make a fine mould for barley, especially when clover is sown among it. There is little occasion now for brake-harrows on the light soil, as it is, in general,

* It may be proper to mention, that formerly the teeth, both of brake and common harrows, were square pieces of iron, tapering and sharp at the point, fixed diagonally, so that one corner of them might always cut the ground. They were also driven carelessly into the wooden frame, and when they loosened, were either driven further, or made firm by wedges. They are now frequently made somewhat triangular, with two longer and one shorter side. The sharp angle, between the two longer sides, is placed foremost; and they are neatly fastened in the timber by screws fitted to their heads. But I have not heard that any harrows, in this county, are made without piercing the timber, although, many years ago, the late Sir David Kinloch shewed me a pair, with the teeth in eight plates or rods of iron, each of which plates was very little shorter than the wooden bar, commonly here called a *bull* or *bill*, sunk into the bottom or lower part of it, and firmly bound to it by iron girds or hoops. When any of the teeth were blunted, or hurt in any manner, the plate or rod, to which it belonged, was carried to the smithy in a man's hand, instead of a horse being employed to bring the harrow or pair of harrows, as is done at present. The timbers, too, if properly rounded at top, and carefully painted, by not being pierced, are less liable to accidents or decay, and may last during the currency of an ordinary lease.

general, brought into excellent order; but, even on that soil, it is found to be of much advantage to roll barley, wheat, and sometimes oats, immediately after they are sown; and wheat, oats, and clover, when in the blade, in spring. The lot designed for potatoes and turnips is likewise frequently rolled.

Sir John Buchanan Riddel has the merit of introducing a kind of instrument or *plough*, which cuts and removes about a foot square of earth, and, with six horses and five men, will drain a greater extent of surface in a day than 100 men. Some farmers, who have tried it, allow that it will answer extremely well, where the ground is not too steep, or too deep for horses in the yoke. He likewise constructed a snow-plough, from one belonging to the Honourable Mr Baillie, by joining some coarse boards, somewhat in the form of a wedge, with which, when drawn by six horses, during the severe lying snow in the beginning of 1795, he opened a road ten feet wide, and brought marl to 180 acres of land, at the rate of thirty carts *per* acre.

The common scythes are employed in mowing hay, but corns are cut with the sickle. Both are put upon the cart and stack, with a common two-pronged fork. A fork, with three or more stout and long prongs, and a handle three feet long, fills dung into the cart *, and spreads it on the field. Lime and marl are spread with a shovel. Both the English and Dutch hoes are used in cleaning potatoes, turnips, and other drilled crops. Stones are loosened, broken, and removed from the earth by picks, large hammers, and levers both of wood and iron. Even gunpowder is sometimes

* Dung is pulled out of the cart by an instrument, called a *muck-baruk*, whose handle is about four and a half feet long, with two prongs nearly at right angles to it, but bent a little backwards towards the points.

times made an implement of husbandry. Docks are taken up with a spade contrived for the purpose. Other weeds, especially thistles, are cut with a weed-hook. Hedges are pruned and dressed by bills and shears. There are one or two machines for chopping straw, and mashing corn. A spade is preferred to the knife for cutting hay.

Milk vessels are sometimes scooped out of a piece of solid wood, and nicely turned and smoothed; but more commonly are made of oaken staves: Earthen cans are also used. Churns are of various forms; each mistress or dairy-maid preferring that kind, which, she thinks, requires least labour, and is most easily cleaned. Cheese-presses are constructed on the principles both of the lever and the screw; the last seems to prevail most, especially in pasture-farms, where cheese is chiefly made.

In the end of the year 1795, there were only ten thrashing-machines in the county. They are now multiplying so fast, that about 20 more were erected during the course of the year 1796, and there will probably be 36 or 40 at work before this account can come from the press. Those first made, either were driven by water, or required four horses, and cost about L. 80. Though they did great execution, thrashing about 25 and even 30 bolls in a day, yet their weight and clumsiness have induced farmers to try lighter ones, pulled by two horses, which are found to switch from 15 to 20 bolls very completely in 10 hours, and cost only about L. 40. When fans are attached to either, there is an additional charge of L. 5 more. Those lately made have all rakes for removing the straw. It is alleged, that, by their circular motion and severe draught, horses are stupified, become less eager of food, and more unfit for their usual work. It is also alleged, that, in rainy seasons when the corn is a little spoiled and the straw moist,

H

they

they perform the work very imperfectly*. But these allegations are denied and ridiculed by all who have made the trial, and do not seem to gain much credit. Thrashing machines are the most necessary, and bid fair to be the least unpopular innovation in husbandry. Few men are dextrous at handling a flail; and still fewer are willing to use it when they can get any other employment. Most labourers would rather work without doors, even in drizzly weather, and on marshy lands, than in a barn. Nor do they, without taking unusual time and care, beat the grain so thoroughly from the straw, as a well-made machine does. Their wages and maintenance have been stated at † L. 18 each yearly. Allowing one of them to earn that sum at the flail, either by day's work, or by the piece, a machine must be a great saving, as it will thrash as much in 26 days as he can thrash in a year, while the number of hands required by each is precisely equal. For the grain thrashed by a man, supposing it to be $1\frac{1}{4}$ of a boll each day, cannot be properly winnowed without the work of five people, for five or six hours every week, which is fully more than 26 days in the year; and, with the assistance of the same number for 26 days, a machine will thrash and clean 15 bolls each day, or 390 bolls in a year. Now $1\frac{1}{4}$ of a boll, (or $6\frac{1}{4}$ Linlithgow standard barley firloths) of all the common grains, is rather a large average for an ordinary thrasher, while 15 bolls are the least quantity expected from an ordinary machine, drawn by two horses. It has also the additional advantages of being set to work on bad days, when little else can be done, and at any other time, when the presence of the farmer prevents all abstraction of grain,

or

* These allegations are mentioned in Mr Ure's Report, and in some marginal remarks on it.

† See Chapter IV. Sect. 6. on Expence and Profit.

or when it is his interest to have a large quantity of it in the market. It is certainly true, that both for seed and for grinding, the generality of grain, after coming through the machine, stands in need of being riddled, and carefully dressed by the common fan; but it is equally true, that grain, designed for these purposes, for the most part, gets an extraordinary dressing when thrashed by the flail: and, when corn is moist, too luxuriant in the straw, or not perfectly ripened and filled, the quantity thrashed by each is proportionally less: When there is any difference, it is in favour of the machine.

This county can boast, not indeed of inventing *fans*, but of being the first in Scotland where they were made and used. It is pretty generally agreed, that one Rogers, a farmer on the estate of Cavers near Hawick, about the year 1733, or at least before the 1737, either saw a model or a description of one which had been brought from Holland*, and that from it, having a mechanical turn, he first made and afterwards improved those, which gradually came to be used in all the neighbouring counties, and which have since received further improvement from his descendants, who sell about 60 of them every year at L. 3 or 3 guineas each. They are remarkably simple in their construction, and answer the purpose extremely well; but corn must be put always twice, and often thrice through them, before it is fully cleaned. An improvement upon them has been attempted by one Moodie at Lilliesleaf, which is much extolled by several farmers. He has introduced and happily combined some properties of other fans, by which the moving

* One report states, that he accidentally saw one lying as useless in a granary at Leith: Another report states, That he got the model or description from Mr Douglas of Cavers, who had been in Holland. See Mr Culley's View of the Agriculture of Northumberland, p. 49. Mr Ure, p. 53 and Stat. Acct. of Hawick, Vol. VIII. p. 525.

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ving powers can be more easily regulated, increased, or diminished, and the grain, at one operation, can be both separated from the chaff and lighter seeds, and completely riddled from loose straws, and all other coarse refuse. The expence is double, the machinery is more complex, and one operation is not always sufficient; but the ingenuity of the structure deserves praise, and may furnish useful hints to such as are employed in attaching fans to thrashing-machines.

CHAP.

CHAP. VI.

INCLOSING, FENCES, GATES.

A GREAT deal of this county is inclosed. In the pasture district, a fence, either temporary or permanent, is generally thrown around the ground in tillage, and likewise around grass-fields intended for hay, or for sheep that are weakly, diseased, or set apart from the flock for any particular purpose. A stone-wall, also, about five feet high, frequently separates those parts of contiguous farms which are most exposed to inroads from each other's cattle. Of the arable district, at least two-thirds are divided into inclosures of very different sizes and forms. This was occasioned, partly by the irregular limits of some estates, which the owners were unwilling and could not be compelled to alter, and partly by the eagerness of little proprietors to inclose the lots which fell to their share, upon the division of commons and of fields belonging in alternate ridges to many individuals, without attempting, by judicious exchanges with their neighbours, to render their possessions more compact and agreeable to the eye. The inclosures, however,
are

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are mostly quadrangular and shapely, and contain from 5 to 60 acres, as best suits the nature of the ground, the convenience of the farms, or the particular views of proprietors. A few near villages may be less, and some lawns around princely seats may be larger, than these dimensions.

In a county, where stones abound, and lime is dear, it is natural to build walls without cement. They were formerly coped with two layers of turf, the lower one inverted; and are so still in many places: But to set the turfs on edge, to condense them together with a spade, and to cut them even both on the top and sides, makes a neater and more durable cop. A few large stones, placed loosely on the top above a kind of projecting cop, with apertures to admit light*, deter both black-cattle and sheep from attempting to break through. When well built with good stones, these walls will last a good while†. Thorn-hedges, however, are rather a more prevalent fence. Two ditches, each from 3 to 5 feet wide, and from 2 to 3 feet deep, are dug about 8 or 10 feet from each other. The earth taken out of them is laid above two rows of thorns planted in the intervening space. Pales and a hedge-row are placed on the top. Experience has shewn that, without double pales, this fence is useless. Cattle climb up either side, trample upon the thorns, nip the young trees, and break down the pales. A single ditch and row of thorns make a quicker and better fence, at one-half of the expence, except

* Here called *Galloway-dikes*, walls of that kind being common in Galloway.

† A wall of dry stones, originally six or seven feet high, with a coping of stones, but now lower, and covered in some places with turfs, surrounds about 450 or 500 acres, formerly called the *great deer park of Hallydean*, has stood at least above two centuries, and is still a tolerable fence. Stat. Acct. of Bowdean, Vol. XVI. p. 241,—2.

cept the pales. This fence has several advantages. It occupies only six, seven, or at most eight feet, instead of fourteen or even eighteen feet; it is more easily kept in order; the pales can be fixed, so as to escape all injury themselves, and to protect the thorns from the feet and teeth of cattle; and there are no trees to withdraw nourishment from the thorns, or obstruct their growth, by overshadowing them, and by collecting rain and dew into huge drops, which thereby are either withheld from them, or fall upon them with destructive weight. The ditch slopes gradually on both sides, and is very narrow at the bottom. The turfs taken from the surface are placed inverted, sometimes about five or six inches back from the lip or edge of the ditch, and sometimes immediately upon it. In the one case, thorns are planted on them; in the other, five or six inches backward, and at the distance of three or four inches from each other, and their roots are carefully covered over with good earth. The stuff dug from the bottom of the ditch, of whatever kind it be, is thrown upon the top of the mound above the good earth which covers the thorns. Thorns are now planted five, six, and even seven inches from each other, and, in some places, are protected by walls of sod, upright on one side with earth laid to the other. Making a single ditch, till very lately, cost only from 5 d. to 8 d. or perhaps 9 d. the rood of 6 yards, according to the ease or difficulty of working the soil. At the same period, stone-walls, $4\frac{1}{2}$ feet high, were built for 1 s. 4 d. the rood of 6 yards, when the stones were brought to the spot; when furnished and carried by the undertakers, the price depends on their quality, their distance, and the roads. The ditch now costs from 7 d. to 1 s. and the wall 1 s. 8 d.

Hedges, when first planted, were disliked and neglected by farmers, as cumbering the ground, and harbouring birds to eat the produce, and flies to torment the cattle while feeding.

feeding. They certainly take up more room than stone-walls, and shelter destructive birds and insects. But, by breaking the force of high-winds, they prevent the corn from being shaken, while by admitting and softening the circulating air, and reflecting in no small degree the rays of the sun, they create an artificial warmth, which, though it may not improve the quality of the grain, and may retard corn and hay, after they are cut, from being so soon ready for the stack, is nevertheless highly favourable to the luxuriant growth both of straw and grass for the sickle, and of a thick sward of rich pasture for cattle. Besides, the disadvantages attending them might be lessened, if they were judiciously managed. By putting a tolerable depth of earth and a little dung or marl below them, by inter-twisting their straggling twigs carefully along the stems close by the ground, like wicker-work, every year while they are very young, by weeding them at least twice every year, and, as they grow up, by training and pruning them into the shape of a narrow-inverted wedge, they would occupy less space, they would become so close as scarcely to admit a sparrow, especially if trimmed just as the corns begin to fill, and they would be less liable to be hurt by cattle. This seems now to be perfectly understood, and will no doubt be attended to by farmers, when their inclosures are in tillage, as they are in possession of the necessary instruments.

Thorns, of late, have been planted on the top or at the back of low walls, about $2\frac{1}{2}$ or 3 feet high. Having a good depth of earth below them, there is little fear of their thriving; and some labour will be saved, as the wall will not crumble down annually like the sides of a ditch. But it is very difficult to keep them clean, as the roots of noxious weeds cannot be disentangled from the stones, and continually send forth fresh shoots. The thorns, too, in a little time

time, by the force of their roots, may push away the wall, and cattle will soon enlarge the gap, if it is not immediately repaired.

Fences, of alternate layers of stone and turf, and of earthen mounds with whins on the top, are now mostly disused. Temporary sheep-folds are still inclosed by fods, placed above one another uprightly, to the height of four or five feet. In particular situations, also, where thorns will not grow *, and stones cannot be found, such fences, sometimes backed with earth, with slender and short stakes stuck into their summits, are thrown around plantations of young trees. They need frequent inspection and reparations, but are preferable to rails or pales, through which young cattle creep, and which old cattle are apt to break down.

Embankments fall to be mentioned more properly here than in any other part of the plan prescribed by the Board. They are of two kinds; one, to restrain waters from encroaching upon the soil, the other to prevent them from overflowing fields, and destroying or carrying off the crops. To accomplish the first purpose, strong buttresses have been erected of huge stones, sometimes laid loosely together, and sometimes built in wooden frames; brush-wood has been closely interwoven together, and fastened by stakes driven through it into the ground; and small stones have been gathered from the surface of land in grass or tillage, and tumbled carelessly down by sides of waters, not unfrequently mixed

* In Stat. Acct. of Kinloch, Vol. XVII. p. 475,—6, there is mention of fences made of larches, where thorns will not grow. They are planted in two rows, at the distance of eighteen or twenty inches from each other in the rows, and those in the one row are always placed opposite to the open space in the other. I have heard that a fence of this kind is now rearing near Hawick.

mixed with different weeds, whose tough and fibrous roots find nutriment from the particles of earth which adhere to the stones, and serve for a cement to the bank which they form. The buttresses generally fail, for obvious reasons: they do not leave sufficient room for the water to pass easily when in a flood: they are too perpendicular: these two circumstances, together with their weight, expose them to be undermined; and they are constructed with smooth stones, which cannot cohere without mortar, and are apt to be removed by the current. The brush-wood and the land-stones answer much better, but do not always succeed, from want of attention to two circumstances; the water is too much hemmed in, and thereby acquires accumulated force; or they are not sufficiently sloped, and present a direct instead of an oblique resistance, by which the stream is led, both to press upon them with greater violence, and to form an eddy and excavation below them. Bulwarks, unskilfully reared against Tweed in the rich plains of Melrose, have repeatedly been thrown down by inundations. While those, made in a more unpromising situation by the late Mr Turnbull of Know, near 40 years ago, with a more judicious attention to divert the force of the river Teviot, continue at this day to save a valuable tract of low land from devastation.

Embankments, to preserve lands from being overflowed, are chiefly found in Liddesdale. A mound of earth, on a broad base, with sloping sides, covered with green sods, is raised above the highest flood-mark, at such a distance from the water as to allow it an ample range. The space, between the water and the bank, is always in grass, and, when kept free of brush-wood, affords admirable pasture. The field, within the bank, secured from inundation, may be brought to a state of high cultivation. Concerning such embankments, I have only to observe, that it is of the greatest

greatest consequence to make the base broad, and the side towards the cultivated field very much sloped; as thereby the water is not so likely to make an impression, and should it, on an extraordinary occasion, rise above the top of the mound, it would descend so gradually and gently as not to hurt the ground.

Gates are of various forms; of one leaf, or of two, of four and five horizontal bars and a diagonal one, or of two or three horizontal bars, and a number of upright ones, sometimes of equal, and sometimes of unequal height. The diagonal bar is generally highest towards the post or pillar on which the gate is hung, with a view of lessening its weight, and assisting its movement. Both these effects are more effectually produced by a simple and obvious improvement, lately made by Mr John Easton *, overleer to Mr

Bell

* To him I am indebted for the annexed draught of this gate, and of the plough. In addition to his improvement, it has occurred to me, that the side-posts, on which gates hang, might be made as strong and more durable, by an alteration in the manner of fixing them. They are generally driven or built into the ground, with their broad side towards the gate. This is thought to give them great advantage in sustaining the weight of gates and the sudden shock of loaded carriages, especially when their tops are made fast to the pillars or walls behind by a strong iron-hook or piece of wood. But it is well known that all timber, stuck or built into ground, is apt to rot where it touches the surface, and that even Lord Dundonald's tar, the best preservative hitherto discovered, cannot long save it. Posts are not only liable to fail, but to loosen, and to be drawn aside or forward, by the weight of gates. To remedy these disadvantages, I propose to make posts of oaken planks, four and a half or five feet long, seven inches broad, and three inches thick, to round their two outer corners about an inch, to build them edge-wise into the pillar or wall, except the inch that is rounded, and to rest them on long and solid stones, raised above the surface of the ground, having one end fixed below the building, and the other projecting so far beyond the post as to receive the pivot on which the gate turns. A piece of tough wood, likewise, should be dove-tailed into the posts both at bottom and top, so as

Bell at Langlee. His gates move upon a pivot brought forward to the inside of the back-post; that post is made very maffy; the bars are made to taper from it; and the fore-post is made light. By thus increasing the weight behind, and lessening it before, the gate is nearly balanced, less apt to sway or loosen the post or pillar on which it hangs, and its motion becomes smooth and easy. At Rid-dell, the upper bar of the gates is strengthened by a slight covering of iron against the pressure of cattle. Others prefer wooden spikes for that purpose.

to be entirely covered by the building, the piece at the top should slope downward, and both should run back three or four feet into the pillars or walls. The pillars or walls, also, should be at least thirty-two inches if not three feet thick, and will be less exposed to damage from carriages, if made circular, where they embrace the posts. Masons object to this plan, because a circular building is never so strong as a square one, and because the posts, in some degree, divide and weaken the pillars or walls. Instead of posts, therefore, they prefer long blocks of hard wood, or freestones, built into the pillars or walls, into which may be fixed the tails of the hinges, or of the rings to encircle the pivots. But both blocks and freestones are liable to be loosened and dislodged by any violent shove or tug upon the gate. Whereas posts, placed in the manner I have described, notwithstanding the acknowledged inconvenience of weakening the pillars or walls, possess the double advantage, of being farther removed from the danger, and of connecting the whole building together, and making all the parts support each other, so as either to resist every shock, or to fall in a mass. A single freestone or flag, of sufficient length, and without any fracture, fixed erect in the ground, and connected with the wall, would be still stronger, but cannot always be got, and cannot be raised, transported, and set up, without much trouble and many hands. Far from insinuating that there may not be many contrivances preferable to the one I have suggested, I may be allowed to assert that it is at least better than thrusting wooden posts into the earth.

CH A P. VII.

ARABLE LAND.

SECT. I.—*Tillage.*

THE plough, which has been already described, is always drawn by two horses or two oxen a-breast, and managed by one man, except where new ground is to be broken up, overrun with roots of brush-wood, or full of earth-bound-stones; in which cases, an additional horse or ox, or perhaps two, with a boy to drive them, are sometimes, but not generally, employed. Most of the horses are so thoroughly trained, as to obey the voice, and seldom to need either the whip or the rein. Many of the ploughmen are exceedingly expert; and take pleasure in keeping their horses in good condition and discipline, and in making complete work*.

In

* When Mr Dawson at Frogden first introduced the drill-husbandry, he had great difficulty to teach a ploughman to manage two horses without a driver, and to make straight furrows. Mr James Macdougall, now tenant in

In clay lands, there are still some crooked, broad, and elevated ridges, which the tenants allege it would not be their interest to alter, both on account of the prodigious labour, and also because thereby some of the best soil would be buried, while a good deal of cold and barren earth would come upon the surface, which could not be meliorated without long time, and a great expence of manure. But there is no part of Roxburghshire where this plea can be admitted, if the lease be of moderate length. Ridges have been lowered, straightened, and lessened, on clayey lands of very different qualities, to the great benefit of the farmers; especially when in tillage, the luxuriance of the crops on the deep land thrown into the old furrows, fully compensating for the deficiency of it on the new and bare soil on the tops or middle of the former ridges; but the case is otherwise when the land is in grass*, the produce being generally poor; and there is every reason to expect equal advantage, from extending this practice to the few monuments, which remain, of the unskilful husbandry of former times.

In such a diversity of soils, it may be natural to expect that the ridges shall be of very unequal form and breadth. In flat lands retentive of moisture, they are often as narrow as 9 and even 7 feet, raised up a few inches in the middle, and sloping gently towards each side. That size is sometimes found to be most commodious on similar lands, though there is a sufficient descent for the water. They run, in general, from that breadth to 18 feet, according to the degree

of
in the parish of Linton in Tweeddale, was the first who learned to plough in this manner; and from him, the practice spread through this county, and the neighbouring ones of Northumberland, Berwickshire, East Lothian, and Tweeddale.

* There are instances of their produce in grass being better than in corn.

of stiffness in the soil, and the declivity of the surface. Wherever there is the least mixture of clay, they have always a little rise and a regular descent, that no surface-water may stagnate upon them. Wheat and clover require a form that will throw off the water, and bear the frosts of winter. The same nicety is not so necessary in other crops: In such cases, the dimension and shape of ridges depend on the judgment and experience of the farmer.

In light lands where the bottom is dry, it is often an object of attention to have as little appearance of ridges as possible. They are made indeed for the convenience of being more accurately sown; but the small distinctions between them are nearly filled up in the harrowing. The favourite breadth seems to be 14 feet, and from that to 16 feet, as being fully reached by two easy casts of the hand. As the sower steps up one side and down another, no part of the ridge runs the risk of being missed, and the seed, falling most copiously on the middle where the two casts meet, will still be sufficiently thick, though some of it shall be trailed by the harrows into the furrows, or devoured by birds. But there is no general rule, either about the breadth of ridges, or manner of sowing. They are sometimes so narrow as to be sown at one cast, and sometimes so very broad as to require three casts, or even more. In laying down shallow land into grass, it is of advantage to have no ridges, that the whole may be of equal depth. When the position of fields permits, ridges are laid N. and S., that the crops may be equally ripened, by sharing alike the influence of the sun.

Good ploughing is thought to consist, in turning over the furrow so as to occupy a middle position between lying flat on the ground and standing perpendicular to it, in clearing out the bottom, in keeping the top level on light land, and in lowering every succeeding furrow a little where the soil inclines

inclines towards clay. A furrow of 9 inches, and of a proportional depth, is taken before winter on land that is meant to be ploughed again in spring; but 7 or 8 inches is a sufficient breadth for furrows intended to receive the seed, and they are made very shallow. In ploughing declivities, judicious farmers take care that their horses shall not be incumbered, at the same time, both by the steepness and weight of the furrow. It is always made to fall from the plough when the horses ascend the bank.

The manner of treating lands before winter, which are not to be sown till spring, is determined by their nature, their state, and the crop which they are next to bear. Fields, in good order and neatly ridged, are often not ploughed for pease till seed-time, though that grain is also sown on land that has been ploughed in winter. For oats, one ploughing only is generally given, as early as possible, and at any rate some weeks before they are sown. Light lands, intended for barley, potatoes, or turnips, are always ploughed before winter; and the former divisions, sometimes too the shapes of the ridges, are carefully altered: Two other ploughings are given in spring; but of late barley has been sown on the winter's ploughing with great success. The management of clay lands depends altogether on the season; when ploughed before winter, every precaution is taken, of which the nature and disposition of different fields admit, to lay them in a position where they are least liable to be injured by water.

SECT. II.—*Fallowing.*

Fallowing here is only practised in the clayey district, as a preparation for wheat, and is carefully attended to in the proper season for cleaning and pulverising the soil. The number

number of ploughings is more or less as appears necessary. One of them (if not two) is always across the usual ridges, and there are at least three sometimes five, besides. The land is harrowed both with a brake and with common harrows, once and often twice, between every ploughing; and frequently it is broken by a heavy roller and mallets. Those roots of weeds, which the sun and weather do not destroy, are gathered, and either carried off or burnt. Dung is laid on at the rate of 24 double carts of 1500 or 1600 cwt. each, or 30 single carts of 1200 cwt. each, or 18 or 20 tons *per* acre, sometimes more, and instantly ploughed down. This operation, as well as that of sowing the wheat, depends on the season, but the whole is always over if possible in September, though sometimes necessarily delayed till October.

Upon the entry to leases of light lands, it is sometimes necessary to fallow fields, which cannot be put in order for turnips; but this seldom or never happens after the first year.

SECT. III.—*Rotation of Crops.*

AGRICULTURE, especially by the more enlightened farmers, is conducted rather upon general principles, than by a regular rotation. While they keep their lands clean and in good condition by a judicious intermixture of white and green crops, they are frequently determined, in the choice of the particular grains to be sown on different lots, by the season, the greater demand for one grain than another, and the peculiar aptitude of their soil to produce one species of grain more surely, more abundantly, or of a better quality than any other. The long continuance of the snow, in spring 1795, obliged many farmers to sow barley on fields intended for spring wheat. The high price of wheat has indu-

ced them to devote a greater quantity of ground to it in 1796, than ever was known. In some lands, barley is found to be such an uncertain and unprofitable crop, that oats or wheat are substituted in its stead. In other places, pease grow and ripen so slowly as to become very precarious, and are given up. Oats in many, and wheat in a few farms, are the only white crops from which any certain returns may be expected. One part of a farm, too, when of a soil materially better or worse than the rest of it, is necessarily subjected to a very different management. Fields, that are ticklish or difficult to labour, when once well dressed and thrown into grass, are suffered to remain in pasture for a series of years. Turnips are seldom raised on clay soil, not because they do not thrive well, but because the land is equally hurt by the carts when carrying them off, and by the paddling of sheep when eating them, and thereby cakes so much as not to be easily pulverised for the ensuing crop, whether, of wheat or of barely and grass-seeds. On some lands of this description, a severe rotation, which was once more general, still continues to be followed, viz. 1. Fallow with dung; 2. Wheat; 3. Pease; 4. Barley; 5. Oats. In general, however, it is giving place to the following more judicious rotations, one or other of which is adopted by farmers according to their command of dung. 1. Fallow with dung; 2. Wheat; 3. Pease; 4. Barley with Clover; 5. Clover; and 6. Oats: or 1. Fallow; 2. Wheat; 3. Clover, to lie two or three years, and then oats: or 1. Fallow; 2. Wheat; 3. Pease; 4. Barley, with Clover to lie two or three years, and then oats.

The following rotation has been tried, but is not approved of by good farmers: 1. Fallow with dung; 2. Wheat; 3. Pease; 4. Oats with clover; 5. Clover; 6. Oats or Wheat. Grass-seeds are often sown along with the clover, and the land pastured, especially where dung cannot conveniently be applied every fifth or sixth year. When dung
can

can be obtained, two of these crops are omitted; and the fallow recurs every fourth year. After land has been completely cleaned and enriched with manure, the fallow is sometimes thought unnecessary, and a small alteration is made in the rotation: 1. Wheat; 2. Pease; 3. Barley or Oats; 4. Clover; the dung being laid on with the pease, or ploughed down on the face of the clover. Where there is a small mixture of blackish sand with the clay, a rotation, omitting peas altogether, has been followed with success: viz. 1. Fallow with dung; 2. Wheat; 3. Barley with Clover, and a little rye-grass; 4. Hay; 5. Oats, and then fallow as before*. When the climate is too cold, or the soil would be too much hurt by wheat, it is changed into oats; and grass-seeds are sown along with the clover, that the land may rest a few years in pasture. Clover is rarely allowed to remain two seasons, as the frost generally makes the clay throw out its roots the second winter: There are instances of its being sown among wheat, and succeeded by oats: Nor is this practice thought improper in land, where barley does not thrive, or where want of dung makes a six years rotation necessary, viz. 1. Fallow with dung; 2. Wheat with Clover; 3. Clover; 4. Oats; 5. Pease; 6. Oats. Here, too, after the land is put into fine order, clover might come profitably in place of the fallow as a preparation for the wheat, and the pease might be dunged. It seems, however, to be generally admitted, that barley, if it can be produced, makes the best nurse for clover; and, where it cannot, experience alone must determine, in what soil and in what circumstances, the preference should be given to wheat or to oats. Beans are not cultivated to such an

* This rotation is not thought consistent with good husbandry by many farmers in the county.

an extent as to become a regular crop in any rotation. Some vetches and tares are raised every year, to be given to the horses, generally in the same field with the pease.

There is one farm in the county, of a rich deep loam, with some mixture of clay, some parts of which carry wheat regularly every second year, and turnips or clover every intermediate year. All the crops are generally good; and there can be little doubt, that the same rotation would answer other farms, if enough of dung could be procured.

It is in light lands, chiefly, that a regular rotation is disregarded. The dung is invariably laid on the field, where turnips or potatoes are to be raised. They are succeeded, in different places, by wheat, oats, and barley. Clover is generally, but not always the next crop. Pease sometimes, and sometimes barley with clover, come after wheat or oats. But two white crops, in close succession, are rarely taken by judicious farmers, except on very rich and deep land, or in some very peculiar circumstances. Clover fields, after producing one crop, are ploughed sometimes for wheat, but more generally for oats, and after two crops, are always sown with oats. There are some instances of potatoes having been planted after clover, and yielding an astonishing increase. A practice begins to obtain of mixing different kinds of clover and grasses in the same field, and surrendering it to sheep, for a succession of years, without being once cut. This is thought more beneficial to the land, and brings nearly as much profit as hay, with less trouble. Lands long in grass are commonly broken up for oats; and produce two crops of them successively, without being materially hurt, especially if dressed for turnips, with a competent dose of dung, the following season. The old
ruinous

ruinous system of raising oats till the ground was quite exhausted, and then leaving it to rest, is universally abandoned; yet some portion of its harsh spirit still directs the husbandry of those farmers, who, after enriching their land with lime or marl, seem to have no other object than to impoverish it again as fast as possible by a severe course of white crops, without any intermission, or help from dung. With them, to be contented, on land newly limed or marled, with two crops of oats, one of pease, and one of barley, would be unexampled moderation. Their more common rotation is, 1. and 2. Oats; 3. Pease; 4. Barley; 5. Oats; 6. Turnips, with a scanty dressing of dung; and 7. Barley or oats with clover. Prejudices, however, though fortified by ignorance and laziness, give way, by degrees, to a sense of interest. Land is found to be more productive by gentle treatment; and the more luxuriant crops and larger profits of good farming are daily recommending it more and more to general imitation. The following rotations may be considered as specimens of good husbandry, and they admit of being varied, according to circumstances. They have all been tried with success in this county. One of them is, 1. Turnips; 2. Barley and Clover; 3. Clover; 4. Oats; 5. Pease; 6. Barley, with pasture-grasses; the field to remain in pasture two or more years, and to be broken up with one or two crops of oats, so as to make a rotation of ten years before the turnips and dung are repeated, and thereby allow sufficient time, and the whole force and manure, to improve and enrich every part even of an extensive farm. Another is, 1. Turnips; 2. Barley with Clover; 3. Hay; 4. and 5. Pasture; and 6. Oats. This rotation may be varied both with respect to length and crops. It may be shortened one or two years, by having the land only one season in pasture after the hay,

or

or by taking oats without pasturing it at all; and there can be no doubt of this being the simplest and best rotation, when land can be dunged again the following summer for turnips. In a rich soil, too, wheat may be taken in place of the barley, or of the oats after a single crop of clover. In either case, grasses have succeeded very well among the wheat, especially for pasture: But, if dung can be obtained, it is reckoned the best management to have, 1. Turnips; 2. Barley; 3. Clover; and 4. Oats or Wheat, according to the quality and state of the fields. In short, farmers study to put their ground in good order, and always follow that rotation, which is found by experience to be least exhausting to the soil, and best suited to suppress weeds.

Beans, tares, vetches, cabbages, carrots, Swedish turnips, flax, and rye, though sometimes raised in pretty considerable quantities, do not enter, as far as I know, into any regular rotation or system of cropping in this county.

SECT. IV.—*Crops commonly cultivated, &c.*

THE quantity of arable land in the county, after the deduction of what may be occupied by woods, gardens, &c. has been stated at 164,032 acres. On these, according to one computation, the distribution of crops is as follows:

Grass, natural and sown,	$\frac{2}{10}$	or	73,812
Oats, — —	$\frac{1}{10}$	or	41,008
Barley, — —	$\frac{2}{10}$	or	16,404
Wheat, — —	$\frac{1}{10}$	or	8,202
Pease, — —	$\frac{1}{10}$	or	8,202
Turnips, — —	$\frac{2}{10}$	or	16,404
			164,032

But

But this distribution cannot be exact, whether it refers to the present or to a former period. At present, there are fewer acres in grafs and peafe, and more in wheat and turnips, than it allots. And, till very lately, the proportion of land, in oats, was much greater, and in barley, wheat, and turnips, smaller, than is here represented. About ten or twelve years ago, the distribution might be nearly thus :

Grafs, natural and fown,	$\frac{90}{100}$	or	73,812
Oats, - - -	$\frac{61}{100}$	or	50,030
Barley, - - -	$\frac{18}{100}$	or	14,763
Wheat, - - -	$\frac{7}{100}$	or	5,741
Peafe, - - -	$\frac{10}{100}$	or	8,203
Turnips, - - -	$\frac{14}{100}$	or	11,483
164,032			

Since that time, the quantity of ground in oats has diminished, while the quantity in wheat and turnips has considerably increased. In the year 1796, there is perhaps less land in grafs and peafe, than for many years past. The following may not be far from the truth.

Grafs, natural and fown,	$\frac{80}{100}$	or	65,610
Oats, - - -	$\frac{50}{100}$	or	41,008
Barley, - - -	$\frac{20}{100}$	or	16,404
* Wheat, - - -	$\frac{12}{100}$	or	9,842
Peafe, - - -	$\frac{8}{100}$	or	6,562
Turnips, - - -	$\frac{10}{100}$	or	24,606
164,032			

In

* Several intelligent farmers allege, with no small probability, that the quantity of land in wheat is double to that in peafe. Though I am not fully convinced that they are right, yet perhaps $\frac{13}{100}$ of wheat, and $\frac{7}{100}$ peas, may be nearer the truth, than what is stated above.

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In all these computations, beans, tares, and vetches are included under the article of pease; rye under wheat; flax under oats; and potatoes, cabbages, ruta-baga, carrots, &c. under turnips; and they proceed entirely on conjectures, formed from comparing the opinions of farmers in different parts of the county. It was impossible for an individual to obtain more authentic and precise information, without such a minute inquiry into the measurement of the fields, sown with the different grains, as would have been very troublesome and tedious, and as might not have been thought very civil.

Wheat, in the opinion of the best farmers about 40 years ago, could only be produced on some favoured spots. The culture of it is now extended over the whole arable district, and has even been attempted in cold and exposed situations, where a profitable return could not be reasonably expected. Two kinds are mostly used, known by the names of the red and the white. The former is the hardiest, and yields both the surest and largest crop; but the latter brings the highest price. There are several varieties of both. A species of the white, called the White Kent, is most esteemed; though the Essex bids fair to become a dangerous rival. It is small, round, and gives a great deal of flower. In the best soils, all these degenerate, if the produce of the same seed be sown from year to year: for which reason, farmers supply themselves with seed, either directly from the S. of England every third or fourth year, or every second year from the produce of what was brought most recently from it by their neighbours. It is the general, but not the invariable practice, to sprinkle the seed copiously with stale urine, or else to steep it in that liquid, or in a strong pickle of salt and water, and afterwards, in both cases, to dust it with quick-lime, till it becomes sufficiently dry to separate easily
when

when sown. The stale urine and lime have been found, by long experience, to protect the crop in a great measure from smut; though it is not always an effectual preservative, and has this disadvantage, that the grain, if not immediately sown, is in danger of being rendered useless. The changeable weather makes farmers afraid of letting slip a favourable opportunity of sowing their wheat, by waiting till it is thus pickled, and sometimes they are obliged to sow what is pickled, in very improper weather, lest it should be lost. Hence a considerable quantity is annually sown, without this salutary precaution, and occasions the smut in wheat. The salt and water is chiefly useful to free the seed from such grains as are faulty and light enough to float. It likewise quickens the springing of it, and gives vigour to the young shoots. Wheat is generally sown broadcast on ridges neatly ploughed with a furrow of seven or eight inches, and carefully harrowed; sometimes the field is previously harrowed and rolled, when the wheat is sown and covered by a narrow and very slight furrow. In both cases, the land, after all these operations are over, receives a furrow more or less deep to carry off the surface water. By this concluding furrow, it is often divided into distinct and equal ridges, and sometimes intersected in such a manner as best suits the declivity. When wheat comes after pease, potatoes, turnips, or a single crop of clover, the land is only once ploughed; but when it succeeds grass or clover two years old or upward, the land gets three or even four ploughings. On fallow and after clover, it is always sown in September, if possible, or early in October; and after all other crops, as soon as the land can be prepared. In spring, it is generally rolled on light land, as a defence against being loosened at the root by winds, or parched by drought; and, on heavy land, it is frequently both rolled and harrowed, that the soil may more easily admit mois-

ture, and, in case of being soaked with rain, may not so readily be bound together by dry weather. Few put less than $\frac{1}{2}$, or more than $\frac{1}{2}$ of a boll upon an acre. When sown by a drill-machine in rows, nine inches asunder, even one firlof is more than sufficient. The grain can be hoed and weeded by the hand, till it springs up into the ear, and afterwards the rows are hardly discernible. Two English acres were dibbled in November 1795, and required little more than a firlof of seed. In holes about $2\frac{1}{2}$ or 3 inches deep, and distant from each other four or five inches, two or three grains were dropped, and instantly covered. In similar holes, at the distance of eight or nine inches, about eight or nine grains were put and covered. In all other respects, the field was equally managed, harrowed and hoed; cost in all for labour of dibbling and hoeing, L. 1, 8s. 2 d. and produced $10\frac{1}{2}$ bolls. That part of it, where the holes were at the greatest distance, and contained the greatest number of grains, yielded the best crop; had the other part been equal to it, the produce would have been a third more. The straw was uncommonly strong, the ears long, and the grain large. Dibbling is tried this season on a larger scale.

Big, or rough bear, a coarse species of barley with six irregular rows in a short ear, was, in former times, raised on the best land newly dunged and over-run with annual weeds. The produce was scanty, and the grain of an inferior quality. It is still sown in hilly districts, where other barley would not come so early to maturity, and has been so much improved, by judicious attention, as to weigh in different places 21 stone *per* boll, and sometimes still more. In all the richer parts of this fine county, it has given place to the long-eared barley of two rows, and fifteen or sixteen grains

grains in each *, which is found to be a more certain and productive crop. This kind probably came originally from France, Flanders, or England. From the latter place, supplies have been annually procured for a very long time; and it degenerates here in weight, colour and shape. When brought from Lincolnshire, it is fair, plump, and weighs about 27 stone *per* boll. After being once sown here, it has been found to weigh from 25 to 26 stone, but in three or four seasons it gradually falls to 23 or 22½ stone, which may be considered as the common weight of good barley in the county. Though the colour depends, a good deal, on the season, the soil, and preceding crop, yet, in the most favourable circumstances, the produce is seldom, if ever, so bright and pure and sleek, as its English progenitor. Polish barley, (called also Thanet) having in the ear six rows, each containing about ten or eleven small and round grains, has also been tried, and thrives well; but its comparative properties cannot yet be ascertained. Battledore, or spratt barley, likewise, has made its way into the western parts of this county from Selkirkshire†, whither it was brought some years ago from the county of York. On light lands, barley is sown after turnips, potatoes, or peas; on heavy lands, generally after peas; very rarely after a white crop on any soil, and as rarely after clover or pasture. The seed is not pickled like wheat: And the ground is so thoroughly cleaned, pulverised, and dressed by the plough, harrows, roller, and mallet when necessary, that no other culture or attention is given to the crop while growing, except to preserve it from cattle and birds, and to pull any dock or thistle, which may have been left in the field, or mixed with the seeds of clover and grass, sown alongst with the barley. Seed-time commences early in April, when the land

* Thirty grains have sometimes been found in a row.

† See Agricultural Account of that County, Chap. VII. Sect. 4.

is in fine condition, but is delayed till May when there are clods to be broken, or weeds to be destroyed.

Oats, though they scarcely cover one-half of the space that they once did, are still the staple grain of the county. The following seven distinct kinds are chiefly cultivated.

1. *Church's oats*, which, Mr Culley calls "a species of the Polish *," and Mr Ure † asserts "differ considerably from them," are described by both, as short, plump, large, early, requiring a rich soil, and giving a great increase, both from the seed and in meal. They weigh about three stone, and yield in meal about two stone *per* boll, more than the common average of any other oats. They were propagated from a small handful, which Mr James Church at Mofstower near Eckford, got in 1776. From his being the first who raised them, they go by his name; and from their not degenerating after being sown on different fields for some years successively, they have gradually risen into great estimation, though they are apt to suffer from high winds.

2. *Dutch oats* made their appearance about the same period. They are nearly as early, and still more easily hurt by winds than Church's, not so large or thin in the husk; and consequently, though the same quantity may grow on an acre, they will fall short in meal about three or four stone *per* boll. They are still used with success on low and sheltered land, which is not of sufficient strength to bear the other.

3. *Red*

* Northumberland Agricultural Survey, p. 33.

† Roxburghshire Agricultural Survey, p. 30.

3. *Red oats* were introduced a few years ago from Peebles-shire. Mr Dawson at Frogden procured a boll of them, and finding them early and productive for two successive seasons, recommended and sold them to his neighbours. They are small, have a thin husk, and have a very faint of red, prosper on high and cold land, are soon ready, stand the force of winds better than any other oats, and give a very good return in meal. They have not much straw; and, in some places, it is not good; in other places it is greatly liked. In hilly districts, these oats will probably be much used. But even there the preference is already disputed by the

4. *Black oats*, which Mr Potts of Penchrise got from the west of England, and has cultivated, for several seasons, in that high exposure, nearly 1200 feet above the sea, with so great success, as to obtain $8\frac{1}{2}$ stone of meal from the boll. They have since been tried in many other places in a similar climate, and have answered equally well. Their husk is black, their grain is rather long, but firm and hard, they grow with vigour and luxuriance, ripen soon, bid defiance to all weather, and their straw makes excellent fodder, though on some soils it is rather hard and sapless.

5. *The common white oats*, however, though later than any of these, and more liable to sustain loss from winds than the two last mentioned, bid fair to maintain their superiority through the county at large, as being admirably suited to every variety of soil and climate. Church's oats, which they resemble in shape and colour, and to which alone they yield in size, and weight of produce, can only be raised on the best soils. The other oats are far inferior to them in these respects, and they excel all the oats hitherto known in quantity and value of straw. They are said to be natives of the county; and they are produced of an excellent quality in many parts of it, especially at *Blainlie*
its

its northern point. The soil there is shallow, has a small mixture of moor, is inclinable to clay, on a cold bottom, with an exposure towards the N. E. But the lands have a gentle declivity, the substratum is not altogether impervious by water, and no wild oats mix with the crop. The harvest is three weeks later there than in the greatest part of the arable district. And as white oats, in these unpromising circumstances, arrive at such perfection as to be sent annually to distant parts both of Scotland and England, this is decisive of their coming to maturity in any place, whose soil and climate are not more unfavourable than those of Blainlie.

6. But neither this kind, nor any of the early oats, answer well on the strong clay soil in the arable district. A species of *Gray Oats*, also a native of the county, generally succeeds much better, and yields a better increase. The straw of these gray oats is not so strong, and is somewhat inclinable to the colour of silver; their chaff is white; they have every quality of good oats, but are very late of coming to maturity.

7. *Angus oats*, both white and gray, are sown here, the latter especially are very common, and on light land, when tolerably deep and rich, seldom fail to yield a prodigious increase. Their shape is not unlike that of the white oats, but their husk is thicker and not so fair; their straw has more branches, but is scarcely so rank, more brittle, and not so much relished by cattle; they ripen more slowly by eight or ten days; and the same quantity will not give as much meal. Yet they are such a certain crop, and so extremely prolific, that in a favourable soil and climate, the farmer's profit *per acre* is greater on them, than on any other kind of oats; on which account, they are now frequently substituted for the *gray* last mentioned.

For

For all these different kinds of oats, the land is only once ploughed, unless where it has never before been in tillage, or on some very particular occasions. The time of sowing them depends wholly on the season. It sometimes begins in February, but more frequently in March, and generally ends, when it can be effected, on the first week of April, though both Dutch and Red oats may be safely sown later in any part of the county. The quantity allowed to an acre varies from $\frac{4}{10}$ to $\frac{8}{10}$ of a boll: Perhaps $\frac{7}{10}$ may not be far from the average. More is required of Church's and the Dutch oats than of any other, as they do not send forth many stalks. Much always depends on the nature and state of the lands. Thin soils are commonly rolled, that they may be in less danger from drought. Other soils, also, are sometimes subjected to that operation. Thistles and other weeds, which might incommode the reapers, or over-run the ground, are cut or pulled, when they appear among oats or any other grain.

Peas are sown of two kinds: One of them is called *hot seed*, or early peas, the other is called *cold seed* or late peas. The former are smaller, speckled, may be sown as late as May, seldom grow long in the straw, and, except in that case, are always early ready. The latter are larger, have few or no specks, require to be sown in March, or even sooner, yield abundance of straw, but fill and ripen so slowly, that they are often not reaped so early as the other. The early kind is chiefly sown on soil that is shallow and sharp, and it is only once ploughed, unless it is dunged, limed or marled. The late kind is sown on heavy land, after two ploughings, or on deep and dry land after one. Of the former, about $\frac{7}{11}$ or $\frac{8}{11}$ of a boll, is sown upon an acre. Of the latter somewhat more.

All

All these grains, as well as the small quantity of rye and beans which are raised, are cut*, with a common hook or sickle, by reapers hired, in a few places, by the day, but more generally during the whole harvest. Men formerly got 10 d. and women 8 d. *per* day, or the one got 20 s. and the other 16 s. *per* season; but the hire rose to 1 s. a-day, or 24 s. the season for men, and 10 d. a-day or 20 s. for women; and is at present much higher. Whatever their wages are, they are all fed by their employer, and get commonly a mess of oatmeal *porridge* or hasty pudding and milk to breakfast, 20 ounces of coarse wheaten bread, and a bottle of small beer to dinner, and either the same mess they had at breakfast, or bread made of pease and barley, with a little milk, to supper. They cut, at an average, from 144 to 168 sheaves each in a day, making bands, and laying the corn neatly into them, or from 12 to 14 *stooks* or shocks, each consisting of 12 sheaves: wheat has sometimes 14 sheaves. Stooks are made, by placing sheaves on their ends, with the grain aloft, in rows of five each, two and two always supporting each other, with an opening between the rows, and between each sheaf, and two sheaves, sloping downwards with the grain undermost, covering their tops. One man binds the sheaves, cut by six reapers, and sets up the stooks. After standing from ten days to three weeks, according to the weather, the nature of the grain, and the exposure of the field, the corn is forked into a cart, carried into the yard, and built into round stacks

* There are some instances of different white crops being cut with the sickle, by the farm-servants, and also by piece-work, at the rate of 2 s. 6 d. *per* acre, and from 2 s. 6 d. to 3 s. more for gathering, binding, and stooking the corns. There are also some instances of fields being cut with hooks, by measurement, at 5 s. 6 d. and 6 s. 6 d. *per* acre, according to their state. But both these practices are rare, though the scythe is creeping slowly into more general use.

stacks, from 24 to 40 feet in circumference, with bodies quite straight or gently swelling towards the middle, so as to throw off the drop in case of rain, and tops tapering in to a point. The stacks are carefully thatched with straw, tightly fastened with ropes. When thrashed by the flail, the labourer is sometimes paid in grain, receiving the 2⁵th part of what he has thrashed, or the market price of it in money; sometimes, he gets 4 d. or 5 d. *per* boll, and his meat, 8 d. or 10 d. without meat, the rate depending something on the kind and quality of the grain; and sometimes he works for the ordinary day's wages of the neighbourhood. But there is at present every appearance of thrashing machines superseding the flails.

The produce of the different grains, *per* acre, will be nearly as follows, on the very best lands, on the poorest lands, and at a medium :

	Best lands.		Worst lands.		Average.
Wheat,	- 6 bolls,	-	2 bolls,	-	4 bolls,
Barley,	- 6	-	3	-	4½
Oats,	- 6	-	2½	-	4½
Peas,	- 4	-	1½	-	2½

It is impossible to ascertain, on any grounds except mere conjecture, the annual exports of grain from this county; but it may be safely affirmed, that about one-half of the whole produce is carried out of it, chiefly in corn, though much also in meal. There are about eighty mills for all sorts of grain, either in the county or on the very confines of it, and most of them have sufficient employment. Several farmers, especially in the northern parts of the county, grind a good deal of oats, and send the meal to Dalkeith, where it generally finds a ready sale; and from the neighbourhood of which they bring home coals or lime: And many millers and some small tenants make

a decent livelihood, by buying grain of different kinds, manufacturing it into flour, meal, or pot-barley, and carrying these to different quarters where there is a demand. Langholm and Peebles, till very lately, received large supplies of grain from this county. Berwick is at present the principal market. Dealers from that town and neighbourhood attend some of the fairs, and the weekly markets at Kelso, to purchase grain. A good deal of wheat, and of wheat-flour manufactured at Hawick, is still carried to Langholm, and the neighbourhood of Carlisle and Dumfries; from which return-carriages are brought of slates, coals, and lime.

Turnips. There is reason to believe that attempts were made, not without success, near 50 years ago, by farmers in different parts of the county *, to raise some small fields of turnips, both in broadcast and in drills. But the practice was not followed by others, nor persevered in long by themselves. Mr William Dawson, who had made himself complete master of the best modes of English husbandry, by a residence of several years in those counties where it is carried to greatest perfection, after his return to Scotland, tried, among other improvements, to introduce the culture of turnips in drills, upon a large scale, about the year 1755; but the farm, which he then possessed, not proving friendly to their production, he wisely suspended the further prosecution of his attempt, till he entered upon his present

* Particularly by Dr John Rutherford at Melrose, Mr Turner at Lint-haughlee, near Jedburgh; and Mr George Cranstoun, then at Crailing. Among these, the palm of priority is disputable. The last, who died very lately, related, that he and Mr John Hood, then at Nisbet in Berwickshire, but now in this county, had fields of turnips, about the period mentioned, but were obliged to drop that crop, as neither themselves nor their servants understood the management of it properly, and as the turnips were mostly stolen by idle and curious people, before they attained their full growth.

present farm of Frogden near Kelso about 1759. Finding here a propitious soil, he resumed his original purpose with such spirit, as to have annually from 80 to 100 acres of turnips. The celerity with which his cattle became fat for the market, the excellent condition of those which he reared and kept, the large quantity of dung which was produced, and the luxuriance of the crops which succeeded the turnips, soon made profelytes of his immediate neighbours, and recommended his new method gradually to general imitation. But so slow has been its progress, that, during twenty years, it scarcely spread as many miles, and, at this moment, after the experience of thirty-six years, it only begins to be practised in some distant parts of the county.

Mr Dawson at first made his drills at the distance of three feet from each other, which, in land wretchedly managed, and full of weeds, was not improper. But, after cleaning his fields, he found so great a width unnecessary, and both he and the other cultivators of turnips have now reduced it to thirty or twenty-seven inches; some perhaps make it still less. The general rule for preparing the land is, to clean level and pulverise it, to form the ridges straight, to allow the water a sufficient descent, and to preserve as much natural sap as possible. Hence the number of ploughings must vary according to the state of the ground. In some cases, not fewer than eight have been found necessary to reduce it to form, and to destroy the weeds; but, where it is in tolerable order, four are sufficient, viz. one before winter, one across about the middle of April, a third in May in the same direction with the first, and a fourth to form the drills, or more properly ridges, in June, or as soon thereafter as circumstances permit. The land is generally harrowed before it is ploughed across, and always after both that and the subsequent ploughing; and the roots of
such

such weeds, as do not perish by these repeated operations, are carefully gathered, and carried off or burnt. After the ridges are formed, dung is laid down in small heaps in every third furrow, instantly spread along the bottom of it, and the one on each side, and quickly covered by a common plough; the tops of these new-made ridges are a little flattened by a light roller; and the seed is deposited directly above the dung, by one of the machines, and in the manner, already described*. It is of great importance to have all this done speedily, to prevent the moisture both of the dung and of the earth from evaporating. The best time for sowing them is from the 8th to the end of June, though very good crops have been obtained, when they were sown much later. There is sometimes occasion to sow them a second time, if the tender plants, on their first appearance, are destroyed by frost, snails, caterpillars, or a small fly; but these evils have never hitherto been generally or severely felt. A little quick lime, carefully strowed on the tops of the drills when newly sown, is a great preservative against the fly and snails. When the land has been much impoverished, 24 cart-loads of dung and even more are given to it, each load being at an average about 1500 or 1600 cwt.; but, after land has once been put in good order, 16 or 18 of these cart-loads are thought sufficient. The quantity of seed sown on an acre may be from 1 to 2 lib. By springing up thickly, plants shelter each other both against frost and insects, till they get their fourth leaf. They are then very attentively thinned, and hoed by the hand, and those which are most vigorous are left at the distance of nine or ten inches, or even one foot asunder. Two remarkably thriving plants sometimes stand nearer to each other, with a space of fourteen or fifteen inches on either

* See Chapter V. on Implements.

ther side. Some horse-hoe their turnips first, to render the hand-hoeing easier and more expeditious:—but the other plan is preferable, because the weeds and superfluous turnips, being drawn by the hoe into the hollows, are afterwards covered by the plough, and converted into manure. This plough is very light, only from five to six inches wide behind, and has a mould on each side, which can be extended or contracted as occasion requires. One mould only is used, when the earth is taken away from the plants, and turned into the hollows above the weeds, four, five, and even eight days after the hand-hoeing, as the weather happens to be more or less favourable, and as the turnips take firm root, and grow erect; but both are needed to replace the earth about ten or twelve days after it was taken away; and, in the intervening time between the two ploughings, the turnips are hand-hoed a second time, and made still thinner in those places where formerly they were left too close together. A third hand-hoeing is sometimes necessary, where the land has been much out of order; and, even in the best managed fields, the earth is laid up twice to the roots of plants, from a belief that, by stirring it thus frequently, they are refreshed and nourished. Sometimes, too, the earth is taken away a second time when the land is not sufficiently cleaned. To hoe an acre properly the first time, requires from three to six women for a day; the second time only half the number. A plough, in taking away the earth, will go over more than two acres in a day, and, in laying it back, will manage four. It is, in a few places, followed by one or two attentive hands, to disencumber the weaker or later plants from the earth that sometimes bears them down, especially where the intervals between the ridges are narrow.

Three kinds of turnip-seeds are commonly mixed, and sown on the same field. The white or globular, especially the

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the early Norfolk, spring up and grow most rapidly, arrive soonest at maturity, and have the sweetest relish, but do not stand severe frost so well as the others. The green, though broad on the top, and not very hard, resist every vicissitude of weather. And the red, from their oblong shape and firmness, must be hardy and heavier than the other two in proportion to their bulk. Judicious farmers begin to perceive the propriety of sowing them separately; that the white may occupy the field which is to be first cleared for wheat, and the others may afford a regular succession of green food to the cattle, till removed to make way for barley. If the present spirit continues for feeding sheep and raising spring wheat, the early Norfolk, here called the *globe* turnip, will come more into use, as there is no doubt of its being the heaviest crop in the early part of the season. One or two have measured forty inches in circumference, and weighed above 30 lib., but in general few exceed a stone, and their common size is from four to ten lib. The green and red kinds are not so large, though several of them reach 18 or 20 lib., and they run not unfrequently from 4 to 6 or 7 lib. through a whole field. Supposing them to weigh only 4 lib. each, and to stand a foot asunder, the produce of an acre, at this rate, would be upwards of 34 tons, and would feed two bullocks for sixteen weeks, at 3 cwt. each every day. But 24 tons is a large enough average for an acre of tolerable turnips, and $2\frac{1}{2}$ cwt. is a sufficient allowance for a middle-sized bullock. Hence an acre of pretty good turnips will serve two of them for 12 or 13 weeks, and two such acres will fatten three of them to 45 stone in four months, increasing their allowance to 3 cwt. each *per* day: And the turnips, at $\frac{1}{2}$ d. *per* stone, will fetch about L. 8 *per* acre.

Turnips are given both to cattle and sheep, to rear them to a larger size, to keep them in good condition, and to fatten

fatten them for the market. For cattle, they are always drawn and carted home. Their leaves, here called *sbaws*, and a few of the smaller ones are given to calves, and yearlings in the straw-yard, or an open shed; their bulbs to milch-cows, and feeding cattle in the stall. For young sheep, and those intended to be kept, they are likewise drawn generally, but not always, and carried to the pasture-field. But sheep, fed for the butcher, are inclosed in hurdles or nets, on a portion of the field on which the turnips grow, and after clearing it, are removed to another. This method both saves labour, and enriches the land by the dung and urine of the sheep. As soon as they have eat the whole length of the field, either along or across the rows, that part is instantly ploughed. Many fields are sold by farmers, to be consumed in these ways, both by cattle and sheep. To be ensured of a moderate profit, without any risk, and, at the same time, to retain the full benefit of the dung, they willingly undertake the trouble of attending and feeding the cattle, and of removing the nets or hurdles of the sheep. They are sometimes paid by the measurement of their fields, and sometimes by the number of weeks that the cattle or sheep are fed; receiving, from L. 3 to L. 4 for an acre of tolerable turnips, from 2 s. 8 d. to 4 s. *per* week, for feeding cattle, according to their size, and from 4 s. 6 d. to 6 s. *per* week for a score of sheep. A practice obtains, in some places, of alternately carrying off a few drills to be used in the stalls, and of leaving a few to be eat in the field; which may be useful, when done early, to allow late crops more air and time to increase in size, and to furnish some additional dung equally to a whole field which had got rather a short allowance at seed-time; for the space that is cleared, is as much benefited by the sheep, as that where their food stands. It is thought that,

in

in many cases, a field, if wholly eat by sheep, would yield too luxuriant a crop the ensuing season, and, if wholly drawn and carted to the stall, might not be sufficiently productive. Both these extremes are avoided, by carrying off and leaving drills alternately.

The great profit arising from fattening sheep on turnips for sale, the advantage derived, by the rest of the flock, from eating that valuable root for some weeks in spring while grass is scarce, and the superior crops produced on fields where turnips are thus consumed, must engage farmers both to extend still further the culture of turnips, and to allot a greater proportion of them to animals, which, without any controversy, are the staple commodity of the county. A considerable variation will, thereby, be occasioned in the present agricultural system. From the dung of cattle fed on one crop of turnips, the next is chiefly raised. In proportion as sheep are fed on the field, this source is lessened; and, to supply such a material want, turnips must be raised by the force of lime, marle, compost dunghills, and the less quantity of dung produced by fewer cattle on a more scanty portion of green food during winter. The crop will probably be less valuable, and may not be safely repeated, except after a longer interval than is usual at present; but the ground, by the sheep, will be put into excellent order for yielding all the other crops in the course of an ordinary rotation; and, from the greater abundance of fodder thus obtained, the quantity of dung will receive a considerable addition.

Potatoes, about forty years ago, were not raised in the fields *, except on narrow beds, in deep marshy spots. The
beds

* A gentleman, now dead, remembered, that some years before the 1745, he was admitted as a great favour into a garden to see potatoes growing.

beds were covered with inverted turfs dug from the trenches around them. The sets were laid upon the turfs, and covered with such earth as the bottoms of the trenches afforded. The species of them then chiefly used was of a deep red colour, and seems now to have wholly vanished. The *kidney* potatoe began to be introduced soon after the red, and was cultivated in the same manner, significantly called *lazy-beds*. I cannot pretend to ascertain, by whom, and at what time, they were first planted in regular drills, as at present, but I remember that in 1768 it was thought a novelty, in some parts of the county, to drop them after the plough, and that, to make the most of the ground, they were put into every furrow. I have reason to believe that the common white kind, now mostly raised, was first brought from Airshire by Dr Macknight* in the 1770. It is a species of the kidney, and now comes annually, in considerable quantities, from Langholm as a salutary and profitable change of feed. Various other potatoes, both of the early and late kind, have since been tried, of all which, next to the common white, the one in greatest esteem is the *red-neb*, which I suspect to be the same known in England by the *pink-eye*. It is large, prolific, and well-flavoured, but becomes rather strong-tasted and unpleasant in spring. About the year 1774 or 1775, potatoes were very generally planted only in every third furrow made by the plough, and at the distance of nine or ten inches from each other in the row. As they grew up, the plough could go between the rows, and gradually raise them into ridges. Many still retain this practice, as the best defence against crows, and as producing the surest and heaviest crop. But, in general, the land is prepared, the ridges are formed, and dung is spread for

N them,

* When he was translated from Maybole to Jedburgh. He is now minister of Edinburgh.

them, in the same manner as for turnips. It is no objection to dung that it is coarse; the sets are placed directly upon it, and covered pretty deeply with earth, by a round of the plough, to protect them from being reached by frost, or dug up by the crows. The desire of saving seed no longer tempts people to hazard the failure of a crop by making the sets too small, and great care is taken to cut them so as to leave in each an eye from which the sprout issues. The best season for planting them is unquestionably the two last weeks of April; when planted earlier, their tender shoots, on piercing the surface, are apt to be nipt by frosts; and, when planted later, there is a risk of their not arriving at maturity. About three weeks after they are planted, the field is harrowed across the rows, to tear up and drag into the hollows such weeds as were not formerly destroyed, and to favour the growth of the potatoes. They are afterwards hand-hoed and horse-hoed like turnips as often as appears necessary, and are taken up, in the three* last weeks of October, sometimes by the common three-pronged dung-fork, but more frequently by the plough. Every digger with a fork has two gatherers; and a plough requires at least sixteen people to shake the potatoes from the earth, to gather, and to carry them to the cart, or to heaps on the field. They are carted in the evening to some covered shed or barn, where they remain several days, and are carefully turned over. The spoiled and small ones are picked out for cattle or swine; and the rest, after being sufficiently dried, are carried to the pit or house where they are to remain during winter. In dry ground, a pit is dug a foot or eighteen inches deep, a thin layer of straw is spread along the sides and bottom

* Early potatoes are seldom planted, except in gardens or in some detached spots, and are taken up, as they become fit for use, from the end of July to the middle of September.

bottom of it, the potatoes are piled up in the form of a roof, and covered, first with a thicker layer of straw, and afterwards with the sods and earth which come out of the pit, smoothed with a spade, and made to slope very much. Where the substratum is not dry, the potatoes are laid upon the surface, piled up and covered in the manner already described; and the earth, laid above them, is taken from a trench thrown around the heap to carry off surface-water. But most people have houses, where they can be stored in safety, by laying dry-sand or saw-dust on the floor, stuffing the sides of them well with straw, and covering them with it or the chaff of oats.

The quantity planted upon an acre is about two bolls, and the average produce is about eighteen or twenty returns of the seed, or from 36 to 40 bolls *per acre* *. I have heard of 40 returns, and I know that from 25 to 28 is not uncommon. But the crop sometimes fails altogether, and often does not exceed twelve or fifteen returns. In dry soil properly dunged and managed, the average, which is stated above, may always be confidently expected. But
clay

* The potatoe boll is the same with the one used in the county for oats and barley, is about $\frac{26}{108}$ larger than the standard boll of Scotland, and is equal to 7 bushels, 3 pecks, 11 pints and a fraction of English standard measure. In the Mid Lothian Report, (p. 108.) 30 bolls Scotch standard measure is thought a large enough average *per acre*. But the soil of Roxburghshire is much better adapted to the culture of this root than that of Mid-Lothian, and gives larger returns; though they are still inferior to those of Lancashire. The common average there of 200 bushels, each weighing 90 lb. is 18,000 lb. = 1285 stone, 10 lb. Whereas 36 Teviot bolls, about 30 stone each, is only 1080 stone; and 40 bolls, at 30 stone each, is only 1200 stone. The highest average there of 300 bushels is 27,000 lb. = 1928 stone = $64\frac{1}{2}$ Teviot bolls, about 30 stone *per boll*. A greater weight, than even this, has been produced in Roxburghshire, though very rarely. Setting aside the few acres, which are mismanaged for want of skill, neglect, and greed, the average given would be rather too low. Including these, it cannot be far from the truth.

clay lands do not yield so large an increase, or such mellow potatoes. The number of acres occupied by this root may be about 1300 or 1400. A population of 32,000 will consume the produce of 1050 acres, supposing each acre to yield 36 bolls, each boll to weigh thirty stone English, and each person to eat two pound English, for 250 days in the year. The produce of other 300 acres will fully supply all that is given to cattle, or used for feed.

The curl was little known here till very lately. It is generally ascribed to some weakness, either in the land or the plant; and that weakness may be brought on, by neglecting to clean, enrich, and cultivate the land, by allowing the seed to be spoiled by improper moisture, heat, or pressure, exhausted by too great sprouts, or affected by frost, before it is taken up the preceding season, or while spread on the ground or a floor to dry, or during winter, while in the pit or house, or after it is cut into sets, or even after it is planted*. But it is certain that this disease is also occasioned, by planting, on contiguous fields and similar soils, the same seed for years successively, or by repeating the crop too often on the same spot, though the seed has been changed. After making many inquiries, I have only heard of two instances of the curl appearing among potatoes planted on ground where they never had been planted before; and I heard of no instance of potatoes being touched by it, when the seed was raised on *laxy-beds*, or was within

* A tradesman left some potatoes to be planted, in his absence, by two labourers. They took coarse dung, picked out the best sets, and planted part of the field. On his return, he planted the sets, which they had left, on the remainder of the field, with finer dung, a few days afterwards. What the labourers planted were mostly curled; what he planted were entirely free from curl; and he suspects the coarse dung, by keeping the earth too open, admitted the frost to check the tender sprouts.

in five or six generations of coming from the *apple* or fruit upon the stem. There are frequent instances of rows, planted with the seed raised on the farm, being infected by the curl, while it did not appear in the least on other rows, close beside them, planted with seed from a different soil and climate. And there can be no doubt that a repetition of the crop on the same spot will both lessen its quantity and hurt its quality.

A species of coarse potatoe, called *yam*, is raised principally for horses, and is said to be more prolific, and to grow on poorer land than the finer kinds. It might also be an object with farmers, especially near villages, to give it to milch-cows, as it would save their other green food, and does not much affect the taste of either milk or butter.

SECT. V.—*Crops, not commonly cultivated.*

THERE are other crops raised annually in Roxburghshire, but not to a great extent, such as rye, beans, flax, tares, and rutabaga.

Rye is generally sown from October to January on poor and light lands, which can bear no other crop. Being a smaller grain than wheat, less seed is requisite for the acre, and the produce is seldom above three or four bolls. As it is found to impoverish the ground, to yield a poor return, and to fetch only a low price, the culture of it is mostly given up, except on single ridges around corn-fields near dwelling-houses, to defend other crops from poultry, and to furnish thatch for stacks or houses, for which its straw is admirably adapted.

Beans,

Beans, too, thrive well, but are so liable to be hurt by frost and rain in a variable harvest, and so severe upon the land, that few of them are sown; and for these few there is no sure and ready market. These are insuperable objections to the extensive cultivation of beans. If the drill-husbandry shall be more generally adopted, there may be a probability of their becoming a regular crop in the rotation of several farms, as then, they may be sown more early, kept more easily clean, cut down sooner, and force themselves into more general consumpt. When safely stacked, no crop is more profitable. They are sown alone in rows, at the same distance from each other as those for turnips are; and the land is dressed in the same manner, with this difference, that, when the season permits, it is ploughed across and formed into drills or ridges before winter, to be ready for receiving the dung and seed early in spring. Like turnips, they are weeded, and hoed by the hand, and with a horse as occasion requires. They commonly succeed a white crop; the acre gets $\frac{2}{3}$ and even $\frac{1}{3}$ of seed, and sometimes yields about six bolls. They are likewise sown broadcast, mixed with peas, sometimes in equal proportions, but more frequently $\frac{6}{11}$ of a boll of beans are given to $\frac{1}{11}$ of a boll of peas for an acre. Their produce, when mixed, is so uncertain, that it cannot be reckoned more than four bolls on the acre. There may be about 60 acres of them raised annually, or perhaps near 70 in some seasons.

Flax may occupy nearly the same number of acres. It is sown towards the end of April or beginning of May, generally after fallow or turnip, at the rate of six or eight pecks, or from $1\frac{1}{2}$ to 2 firlots *per* acre, carefully weeded by the hand, and pulled in August, though often allowed to stand till September, that the bolls may ripen for seed or
for

for the mill. From 16 to 25 stones of scutched or switched lint have been produced on the acre; but the average will scarcely exceed 20 stone; and of seed, may be about 26 pecks or $6\frac{1}{2}$ firlots. The land, in a great part of this county, is not adapted for producing good crops of it; and, even where it grows most luxuriantly, scarcely enough is raised for home consumption, because, in an inland county, whose staple is wool, it can neither find a ready market, nor be manufactured to advantage, and because, though an excellent nurse for clover from its being well weeded and soon pulled, yet it is found to exhaust the soil. Besides, the operations of stripping off the bolls and winnowing the seed, of steeping, spreading, gathering, and dressing the lint, are all of them so unpleasant, and some of them so offensive, that they are much disliked by servants. Though fewer fields may be raised of lint than of beans, yet, as a small quantity of the former is sown almost on every farm, for the family use of the tenant or his cottagers, an equal extent of ground may be assigned to each. There are two lint-mills in the county, which have pretty good employment, though a great proportion of the flax raised is scutched at home.

A few tares are frequently sown on corners of pea-fields, to be cut green for horses. What they do not use is kept for seed; but the quantity raised annually is trifling.

Swedish turnips, or rutabaga, are on the decline. They have been tried for five or six seasons, both on a small and a large scale, and were uniformly found to be hard, heavy in proportion to their bulk, much relished by cattle, proof against every severity of season, and very sweet and nutritive even after coming into flower. But their roots extract much nourishment from the ground, their stalks grow too upright,

upright, and their leaves do not spread, to catch moisture from the atmosphere, to prevent exhalation, and to suppress weeds. They are likewise exposed to suffer much from hares during winter; and, when taken up and stacked before it begins, they have not that richness and nutritive quality which they acquire from frosts. It is likewise remarked, that, though they can be easily transplanted, they do not attain the same size, as when allowed to remain where they were sown. They are sown in the end of April or in May, and treated, in all other respects, in the same way with turnips.

Other crops are occasionally but not constantly cultivated. Great numbers of cabbage-plants are raised annually, and sold in the neighbouring counties of Dumfries, Lanark, and Peebles. They are found to thrive remarkably well here in the open fields; and, though not so profitable as potatoes or turnips, are so useful for milch-cows in the end of autumn and beginning of winter, when the second growth of clover fails, and before the turnips are fully ready, and affect so little the taste of the milk, that it is surprising they are not more attended to. A few rows of them only are sometimes to be seen in the potatoe or turnip-fields, or in some small detached spots. They are planted from the middle of March to the beginning of June in rows from 2 to 2½ feet asunder, and at the distance of 14 or 18 inches from each other in the rows, and managed like a crop of potatoes or turnips.

A few carrots have, at different times, been raised for horses, milch-cows, and for sale. They were first tried in the field about 24 years ago, and the trial has been frequently repeated in many places, not without considerable success. But the culture of them cannot become very general

or extensive in this county, because few spots are proper for their growth, and these few can often, if not always, be more profitably employed; there are many risks and much trouble in rearing them; if they were placed in rows at such a distance as to admit of being horse-hoed, the weight of the crop would be so much diminished, as to render it comparatively of little value; and to hand-hoe, weed, and dig them up, would be so expensive, as to reduce the profit to a mere trifle. They are known to be nutritive for both horses and cattle, and to give butter a beautiful colour and rich taste; but even these advantages cannot compensate for the minute and constant attention which they require, and which, in a large scale of farming, it is impossible to bestow.

Buck-wheat has been sown for five or six years at Greenwells near Melrose, and, though the soil is very unsuitable, it has thriven well, yielding one season fourteen fold. The seed raised there, when sown the following season, gave as good a return as what was brought directly from England. It was, for the first time, tried in 1796 at Riddel on some exposed heathy ground, newly broke. Though sown too late in the season, and checked by a severe frost in the end of May, or beginning of June, yet some of it came up vigorously and flowered, but could not be said to produce a crop.

Tobacco, during the American war, was cultivated to a considerable extent in the neighbourhood of Kelso and Jedburgh, and in some other spots. Its produce was so great, that thirteen acres at Crailing fetched L. 104 Sterl. or L. 8 Sterl. *per* acre, at the low rate of 4 d. *per* lib. and would have brought more than three times as much, had not an act of Parliament obliged the cultivator to dispose of it to

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Government

Government at that price. This county lost about L. 1500 Sterling by that act, which passed while the tobacco was growing; yet it excited not as much murmuring and clamour among the sufferers, as have been elsewhere repeatedly raised, with less reason, against other acts in no respects so arbitrary and oppressive.

Rhubarb, teasels, woad, and other similar plants, are not raised in the field.

CHAP.

CHAP. VIII.

GRASS.

SECT. I.—*Natural Meadows and Pastures.*

IT has already been stated, that about $\frac{1}{2}$ or 288,048 acres of this county are constantly in pasture. Of these, the quantity saved for hay is very small, and so dispersed up and down in spots of different sizes and figures, that no probable conjecture can be formed of its extent. The hay, in general, is coarse, soft, and not easily made; though a good deal of it, especially by the sides of waters, has a finer and firmer stalk, is sweet, and much relished by cattle and sheep. A larger quantity is cut in Liddesdale than in the rest of the county, and given to black cattle during winter. The natural hay consists chiefly of *Anthoxanthum odoratum*, sweet scented vernal grass: *Holcus lanatus*, meadow soft grass: *Poa pratensis*, smooth meadow grass: *Dactylis glomerata*, rough cocksfoot grass: *Alopecurus pratensis*, meadow

meadow foxtail-grass: *Aira caespitosa*, hair-grass: *Avena flavescens*, oat-grass. But the most common of all, especially in the higher parts of the county, are different species of *Carex*, here called *pry*, and by Ainsworth interpreted sheer-grass; and *juncus*, comprehending various plants, differing from though not unlike a finer kind of rushes, all of which are known pretty generally through the south of Scotland by the name of *sprats* *.

The sheep are allowed to pasture the hay-fields till the middle or end of April; and, on that account, it is not ready for the scythe till the end of August, which increases the difficulty of getting it into a proper state for keeping in a stack. Could farmers be persuaded to remove their sheep some weeks earlier, their hay would be of a better quality, sooner ripe, and made at an easier rate. But they must be left to judge whether they would suffer more by depriving their sheep of the best pasture at a scarce time of year, than they would gain by bettering their hay, and lessening the expence of labour.

Early in spring, sheep, in marshy districts, feed much upon the *criophorum vaginatum*, called by the farmers and their shepherds *moofs*. The roots as well as the leaves are nutritive, and sheep pull, scratch, and even dig them up with avidity. The *Poa annua* grows every where by the sides of roads and walls where the soil is dry and firm, comes early, and remains long. Their pastures also abound with

* There is a good deal of bent-grass in different places, but it is never made into hay, because it is so tough, hard, and elastic, that, except in very dewy mornings, or wet weather, it eludes the stroke of the scythe, and because the sheep are remarkably fond of it for two or three months while it is green, but cannot eat it when fit for being made into hay. In some spots, where it grows very luxuriantly, a shift is made to cut a little of it and dry it for litter to black cattle. Rushes, also, are used for the same purpose. Stacks and shepherds-cots are in some places thatched with them and with *sprats*.

with *festuca ovina*, sheep's fescue; *cynosurus cristatus*, crested dogtail; several species of *Agrostis* or bent-grass, and a variety of other common herbage. The *Digitalis purpurea*, or foxglove, is likewise found, especially on those pastures which lie on red granite.

SECT. II.—*Artificial Grasses.*

THE quantity of land, annually sown with artificial grasses, corresponds pretty nearly to what was in turnips the preceding year. For though turnips are sometimes succeeded by oats, wheat, and even by barley without grasses, yet grasses are as often sown among barley or oats coming after pease.

Red clover, intended for hay, is generally, if not always, sown among barley, at the rate of 10 or 12 lib. *per* acre on light, and 14 or 16 lib. on heavy land, with 1 bushel of foreign or two bushels of home-raised rye-grass seed. When mixed with yellow clover, 6 or at most 8 lib. on light, and 10 or 12 lib. on heavy land, are sufficient for an acre, from 4 to 6 lib. of the latter being added. For pasture, red, white, and yellow clover are sometimes sown with wheat and oats, as well as with barley, in equal proportions, at the rate of 12 or 15 lib. on light, and from 15 to 20 lib. on heavy soils. But, for the most part, a greater proportion is given of the red than of the other two. The yellow is often omitted, and 8 lib. of red sown with 4 lib. of white to the acre. The quantity of rye-grass is generally the same. Rib-grass, too, is frequently added, though only in small quantities, both it and white clover being congenial to the soil almost of the whole county, and growing spontaneously, or spreading fast from very little seed. All these are
commonly

commonly sown together in the months of April and May, and the field immediately rolled. When they accompany barley, the stones are gathered instantly, and carried off the field; but that operation is delayed till the following spring, when they are sown among grain already sprung up. The ground sometimes gets a second rolling before winter, and always one in the ensuing spring, unless other labour more pressing comes in the way. A good deal of land, in high condition, thus sown with grasses, instead of being mown as formerly, is pastured by sheep from the beginning of the very first season. The quantity, also, cut green for cattle and work-horses, is annually increasing. The second crop, especially, when two are taken in a season, is devoted to this purpose, but cattle are more frequently turned out to be fattened upon it. Yet more hay is made now, than before these practices became so prevalent. Less than 150 stone *per* acre is reckoned a poor, 200 stone a good, and 250 stone a great crop. The average may run from 180 to 200 stone; and it sells at 4 d. or thereabouts from the field-ricks. In stacks the price varies very much according to local situation, or occasional necessity. The vicinity of a populous town, deep snow lying for several weeks, or a troop of horse stationed in a place during winter, never fail to increase its value. Horses, being hard wrought, require more nutritive sustenance than straw, and eat hay at least four months every year. It is frequently given to cattle when weakly, delicate, and unhealthy, to cows newly calved, to oxen employed in the draught, and even to feeding cattle during a violent frost, when turnips are less palatable and not so easily pulled, or late in spring when green food fails, to keep them from falling off, till good beef becomes scarce. Many of the neighbouring gentlemen consume more hay than they raise. Farmers find purchasers in them and the inhabitants of contiguous villages for any surplus

surplus they can spare. Several of them keep large stacks from year to year, lest a severe winter should oblige them to feed their sheep. And such as have no sheep, are then sure of a ready market, and a high price.

A species of burnet grows wild in Liddesdale, and is much liked by cattle, which may induce the gentlemen and farmers there to attempt the cultivation of it. Lucerne has also been tried on a small scale by two or three proprietors; but most of them have rooted it up: And, as far as I can learn, it remains now only on one small corner. It cannot be expected, that a plant, which grows so slowly, and requires to be retained so long in the ground, will ever become a favourite with tenants on the ordinary length of leases.

SECT. III.—*Hay Harvest.*

THERE are many ways of working hay in this county, but the simplest and least expensive daily gains ground. It is cut with a scythe, but, instead of being instantly put into small cocks, or tossed loosely about the field, as was once the case, it is suffered to remain in the swath for two days or three, according to the state of the weather, and then turned so carefully as to discompose its natural order and regularity as little as possible. After another day, or two at most, in dry weather, it may be turned again in the forenoon, or let alone as circumstances require, and put up in small ricks in the evening, to stand for six or eight days, or perhaps longer, and then stacked. In the swath, it resists rain much better than in any other form, preserves its colour,

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colour, retains its flavour, and, by being made ready more slowly, is both a weightier and more nutritive crop*.

Natural or meadow hay, being of a softer and more flexible nature, and cut later in the season, is more apt to be compressed together by damps and showers, and not so easily put into a state of preservation. It is often carried from the place where it grows to some dry knoll, more exposed to the sun and winds, where it is spread out every morning, and collected every evening into large cocks. In the best weather, it requires near a fortnight's labour; and in rainy seasons, much more. As it only grows in irregular patches, seldom if ever in large fields that have been measured apart, and is not sold or weighed, the average produce of an acre can only be stated, by conjecture, at 150 stone.

Hay-stacks are sometimes built round, with a conical top, but more commonly in an oblong form, shaped and drawn together above like a house. They are thatched with straw or rushes, neatly bound down by ropes of straw or hay, crossing each other diagonally, and making the whole covering of one piece, which will resist the force of every blast during winter.

SECT.

* See some very pertinent observations on this subject, in the Improved General View of Agriculture in Mid Lothian, p. 126, 7. To these observations, I heartily subscribe, with this exception, or perhaps rather explanation, that, whatever be the state of the hay, whether it has escaped from rain, or has been drenched, whether it has remained in the swath, or has been turned over, on the morning of the day on which it is put in ricks, it should be narrowly examined, and those parts of it, which are wettest or fullest of natural sap, should be exposed for an hour or two to the sun and the wind.

SECT. IV.—Feeding.

SOME farmers fatten a few sheep on the common pasture, or in inclosures near their houses. And they all endeavour to put the ewes, lambs, and wethers, which are intended for the market, in as good condition as possible. Many of them, and several gentlemen, purchase, in spring, ewes great with young, to go on their richest fields, use at home, or sell the lambs as soon as they are sufficiently fat, and feed off the mothers in three or four months thereafter. They also buy a few wethers, either in spring or autumn, to be fattened on grass or turnips, according to circumstances. It is computed that three ewes and lambs will consume nearly as much as four wethers. An acre of good land will feed three large or five small ewes and lambs. Three Dishley ewes and four lambs, supposing one of them to have twins, and allowing the mother to be sold fat at the same price paid for her when great with young, will yield 55 s. 6 d. *per acre*; the lamb being valued at 10 s. 6 d. and the fleece at 4 s. 6 d. Four Cheviot ewes and lambs, computing their lambs at 8 s. and their fleeces at 2 s. 6 d. each, will only bring 2 guineas *per acre*. And 5 black-faced ewes and lambs, estimating the lambs at 6 s. and their fleeces at 1 s. 6 d. each, will produce L. 1 : 17 : 6 *per acre*; but these last being kindly feeders, both their lambs and they themselves will be sooner ready for the table, and leave the pasture to be otherwise occupied; and being delicate mutton, the mother will fetch a higher price than the other sheep, in proportion to her weight. Greater profits than these are sometimes, and should always be obtained, as land, capable of fattening three Dishley or five black faced ewes and lambs, would let at 30 s. *per acre*. The profit on wethers is scarcely so much, but there is less risk and trouble in feeding them; they are sooner made fat; and can be replaced, in

August or September, by others, who, after advancing a little on the pasture, are more easily fed-off on turnips. Many, both of them and of the black-faced ewes, are kept by families for their own tables.

A number of small and lean cattle are generally purchased by some gentlemen and farmers, at the northern markets, or on their road to England in the months of October and November, to consume their straw during winter, and to be fed on grass and aftermath the ensuing season. Such of them, as are not then fit for the market, are put on turnips. Many half-fed cattle are likewise picked up, in the months of July and August, to be fattened on the second growth of clover.

Butchers frequently rent inclosures, especially near towns, to receive their purchases of cattle, sheep, and lambs, until the best of them are wanted in the market, and the rest become ready for the shambles. Hence such pastures are sometimes overstocked, and scarcely afford food enough to prevent the animals from falling away; and, at other times, are so much saved, as to improve very quickly such as are not fully fed. Conveniency is more regarded than gain.

CHAP. IX.

GARDENS AND ORCHARDS.

THERE being no large towns in Roxburghshire, and the population being small in proportion to its extent, there can be little demand for the productions of the garden, and few raise articles for sale. All the gentlemen and farmers, and most of the principal inhabitants of the towns and villages, have gardens of their own, from which their tables are furnished with the common vegetables and fruits. The climate, in the lower part of the county, is favourable to the culture of such as are more choice and rare. The nicer kinds of apples, pears, and plums, apricots, peaches, and nectarines, are brought to maturity on open walls, built commonly of stone and lime, and sometimes lined with brick. In some places, they are assisted by flues. There are many hot-houses, and common hot-beds for melons, grapes, pine-apples, and different kinds of exotic plants and flowers. Attempts have been made to raise all these in the higher parts of the county, not with-
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out success, though want of climate did not allow many of them to attain the same perfection in ripeness and flavour. The more common fruits are every where produced of an excellent quality. Cherries, early apples, and pears, some coarse sorts of plums, gooseberries, strawberries, raspberries, and currants of different kinds, are all found in very high and bleak situations, where some vegetables for the kitchen do not thrive; onions, artichokes, brocoli, and other articles, are either too nice in their choice of soil, or too weak, to stand the severity of the climate. Abundance of onions, however, are raised in most parts of the county, and sold in the markets at a reasonable rate, to season the homely dishes of the poor. Every cottager has a garden, in which little is planted except potatoes, and sometimes a few cabbages for summer, and, for winter, green or open *kail*, a hardy plant, not unlike the *cole* in England, which is seldom hurt by the severest frost. Of late a few beans and turnips have been introduced, but they are greedily devoured by children before they are fit for use. Some farmers are, in this respect, in the same situation with their cottagers; but many of them, and a great number of small proprietors and artificers, have neat and curious gardens, carefully and skilfully managed, producing not only the best kinds of common vegetables in great profusion, but many uncommon plants and flowers, both for beauty and for use*.

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* Rhubarb has been raised of a large size, and admirable quality, and teasels which have answered as well for smoothing the surface of cloth, as those brought from England. Woad too is cultivated. Moss-roses are very common. The double-leaved yellow rose is also sometimes seen. There are several other plants, equally valuable or beautiful, whose names I do not recollect.

There are several small orchards, mostly belonging to gentlemen, who do not sell the fruit. A few, at Jedburgh, Kelso, Melrose, and Gattonside, are let to gardeners, or retained by the proprietors, who, for the fruit, undergrowth, and grass, may draw annually from L. 6 to L. 10 *per acre*. Jedburgh has long been famous for pears. The best kinds there are the Lammas or Crawford, the Auchan, and the Longueville. The two last, especially, are much valued, and in great demand over a large track of country. There are several other pears of good kinds, and some very bad ones. In some seasons their produce is incredibly great. A variety of apples, mostly for the kitchen, are likewise raised there, and a good many indifferent plums. All these fruits, except the Auchan and Longueville pears, grow in the other orchards, and are carried to a considerable distance. Gooseberries, strawberries, currants, and plums, being unfit for a long carriage, are sold in the neighbourhood at a low price. At Melrose and Jedburgh, there are some very old trees, supported by props, and still very prolific*. They were probably planted by the priests belonging to these Abbeys, and shew that, among the other qualities ascribed to them, they were not inattentive to good fruits.

It has, of late, become very common for gentlemen to keep small nurseries for supplying themselves with plants of thorns and forest-trees. There are likewise several nurseries, in which every kind of shrub, large and small fruit
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* Wonderful stories are told of their fertility. A single tree of the thorn pear at Melrose, has for these 50 years past yielded the interest of the money paid for the garden where it stands, and for a house let at L. 7 Sterling yearly. Another tree there has carried fruit to the amount of L. 3 Sterling annually at an average for the same period. In the 1793, two trees there brought to perfection about 60,000 pears, which were sold for 8 guineas. These facts are well authenticated.

and forest trees, is raised for sale. The whole ground, occupied in this way, does not exceed 120 acres, yet produces enough to answer all the demands of this county, and many commissions from distant parts. A large share of it belongs to Messrs Dicksons, in the neighbourhood of Hawick, whose plants have an extensive sale through all the north of England and south of Scotland.

CHAP.

CHAP. X.

WOODS AND PLANTATIONS.

ACCORDING to the best information which I could obtain, there cannot be fewer than 5290* acres in wood, natural and planted, in Roxburghshire. The amount, in several parishes, being stated upon conjecture, perfect accuracy cannot be expected. But, if every error was rectified by an exact survey, I am confident the number of acres on the whole would rather be more than less. There is less danger of mistakes in computing the quantity of planted than of natural wood. The one is regular and compact, all its trees are of the same age, and a probable conjecture may be formed of its extent from the number of them which it contains. The other is so irregular and scattered, and its trees are of such unequal age and growth, that conjectures can stand on no certain basis, and must be altogether vague. The only safe way is to keep within the mark, which many may think I have done much too far, in stating the whole natural wood in this large county only at 608 acres. The number planted is nearly 4682. In neither of these are included, hedge-rows, straggling trees in lawns and fields, and tufts around villages and farm-houses :

* See the Statistical Table annexed, Chap. XV. Sect. 8.

ses; although all these are mostly hard-wood, and many of them would bring a great price. In several places, and particularly at Ancrum, a number of trees were felled of a large size about 30 years ago. I cannot learn their measurement or solid contents, but I am assured, that one ash was sold for L. 25 Sterling, and proved an excellent bargain; and that there are, at this moment, on that estate, several trees, whose circumference is from 10 to 13 ft. and whose trunk is from 7 to 15 ft. in length. An ash, on a neighbouring estate, which was bought in 1796 for seven guineas, measured 10 ft. round, and contained 174 ft. of wood. Many trees, equally large and valuable, still remain, in different and distant parts of the county, untouched by the axe or the weather. From poverty of soil, injudicious management, or some accidental circumstances, several hundred acres, planted some time ago chiefly with Scotch firs, have totally failed; and nearly as many, lately planted, do not promise well. But, in general, every tree, which thrives in other parts of Scotland, may be found here healthy and vigorous. Of those commonly cultivated, the beech, the plane, and the lime, are the most luxuriant and beautiful, and the ash and Scotch fir are the most profitable. For though oak and elm are as valuable as ash, and much more so than fir, they do not grow so quickly, are not so soon ready for use, and do not produce so much from the acre. There is no stage of their growth after they are 12 years old, in which ash and fir are not fit for some useful purpose. Old ashes, oaks and elms, sell at 1 s. 8 d. and 2 s. per ft.; beech and plane, from 10 d. to 1 s. 2 d.; and firs, from 7 d. to 1 s. A species of willow, known by the name of *red saugh* or fallow, is esteemed next in value to ash, oak and elm, and brings 1 s. 6 d. or 1 s. 8 d. These variations in the prices are occasioned, partly by local situation, but chiefly by the age and quality of the trees. Birch
and

and alder are not sold by measurement. The timber of other trees is seldom used, except for some very particular purposes. A number of larches are coming forward in different places, and may, in a few years, be applied to many purposes, for which, at present, recourse is had to foreign fir. It is brought from Berwick and Leith, where the prime cost of it, in time of peace, was about 1 s. 2 d. and 1 s. 4 d. *per* ft. and now is 1 s. 8 d. and 1 s. 10 d.: the carriage being nearly a halfpenny *per* ft. for every four miles, the foot of it may amount, in some distant parts of the county, to no less than 2 s. 5 d. This enormous price has induced some gentlemen lately to make a fair trial of fir, produced in the county, for the joists and roofs of their houses. There are already instances of its remaining perfectly sound in roofs above 40 years; and the planks, now on sale, are older, larger and better, than those formerly used. Some trees at 1 s. *per* ft. have fetched about 50 s. each; and the average of those sold in a season will be 24 ft. in length, 7 inches in the side, and about 8 ft. of wood*. Towards the beginning of this century, the celebrated Sir William Bennet, Sir Elliot of Stobs, Mr Douglas of Cavers, Mr Elliot of Wells, and Mr Bennet of Chesters, made large plantations of this useful tree, from which their descendants have reaped great advantage. These are now mostly cut down; but others, planted only a few years after them, are now on sale at Wells (on Rule water) and Stewartfield, from 7 d. to 1 s. *per* ft. according to their size and quality: And there is every appearance of twenty or thirty acres being equally ready every year

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for

* Very many of these contain from 15 to 18 ft. of wood; but the average is brought thus low by the number of smaller trees, which are cut yearly, to give larger ones more room.

for half a century, unless want of cash shall tempt some proprietors of estates entailed on distant connections, or some young successors to estates which they cannot sell, to employ the axe too freely, and cut down large parcels before they attain full maturity. Some planks, carried in 1795 from Wells to the extremity of Liddefdale, were of so large a size, so good a quality, and susceptible of so fine a polish, as fully to equal a great deal of what is brought from the north of Europe. This fact deserves to be mentioned, both as it may set other gentlemen upon similar experiments, and as it may encourage them to plant firs on many thousand acres which cannot be turned to such good account. Perhaps, indeed, there never was less occasion, than at the present moment, for a hint of this nature. A great deal of land has been lately planted, and in a manner, too, that bids fairer for success than any that was formerly followed. The belts, especially in exposed situations, are made very broad; the ground is ploughed, and in some cases manured; the soil, where shallow, is deepened immediately below the trees; it is annually dug around them; and sometimes it carries potatoes, turnips, cabbages, or kail. The plants, by these operations, are refreshed and nourished; those that are weakly or have been hurt may be helped; and those that perish may be replaced*. A good many willows, likewise, of different kinds, now occupy several marshy spots. There is little doubt of their growing; and, if they are managed as skilfully as in the fenny districts of England, the profits arising from them may probably extend

* I have remarked, in traversing this county, that the most vigorous and fullest-grown firs, are always found above rocks of lime, free or whinstone, and that firs, on a bottom of clay, till, and even gravel, are apt to pine and decay about the age of twenty or twenty-five years, and some earlier.

tend their culture to other lands of a fimilar nature, which cannot be so profitably employed. There are numerous shrubberies, some of them on a large scale, and furnished with many foreign shrubs as well as with all those which the island produces. Several farmers and tradesmen have great delight in rearing them, and by assiduity and care bring some rare ones to high perfection *.

* Since writing the above, I observed a plantation of hard-wood, surrounded by a belt of firs and larches, and intersected by rows of them at the distance of 25 or 30 yards from each other. Both were thriving.

CHAP.

CHAP. XI.

WASTES.

IT is difficult to annex any precise meaning to this expression, when applied to lands in Scotland. In former times, there were several commons, in which the cattle, belonging to different proprietors, went promiscuously under one *herd* or keeper. The arable land, also, was possessed in alternate ridges, separated by broad *balks*, on which the large stones were laid when the indolent husbandmen could take that trouble, and was pastured by the cattle, after being freed from the crop. The best part of it was dunged every third year, when barley was raised; the other crops were oats and peas. The worst or most exposed part of it carried oats for years successively, till it was exhausted, and left to the cattle. Lands, thus awkwardly possessed, and wretchedly managed, might not improperly be called *wastes*; and though acts of Parliament passed, so early as the 1695, for dividing them, at the instance of any proprietor having interest, yet no advantage was taken of such beneficial laws, till the year 1738 or 1739, that the lands of Smailholm

holm were parcelled out among the several proprietors, in proportion to the *valuation*, or rate, by which they paid the land-tax. At that time, a mighty clamour was excited, and renewed on every subsequent division of a common, that the poor were spoiled and oppressed, and the country was ruined, to enlarge the possessions of the great. This cry became louder, when several small farms, lying contiguous, were thrown together, to make one or two compact and commodious farms, on which tenants could subsist more comfortably at an advanced rent, by having it in their power, to make inclosures of a competent size *, to do more work with the same number of hands and cattle, and consequently to draw much more profit from the same extent of ground. Through the influence of these popular prejudices, the division of commons and blended property went slowly on for some years; but a sense of private interest, and of general good, by degrees, has broken these absurd fetters, and there has not been a single common in the whole county these 20 years. Large farms have likewise become more general, and where they do not swell to a very immoderate size, are no longer regarded with an evil eye. It is not incurious to observe, that, in general, they are kept in much better order than smaller ones,

* The multitude of diminutive and awkward inclosures in the north of England, particularly in Yorkshire, Derbyshire, Lancashire, &c. can only be accounted for, by supposing, that they once belonged to as many small proprietors, or were rented by successive generations of small tenants, who, looking on them as a kind of inheritance, threw around them walls built with the stones picked up from their surface, or planted some defenceless thorns to be trodden down by cattle or sportsmen, chiefly with a view of ascertaining the boundaries of detached spots, possessed by different individuals, in different corners of the same manor, without reflecting that, if the property or possessions of each were laid together by fair exchanges, or an equal apportionment of rent, their inclosures would be more sizeable and commodious.

ones, for which substantial reasons can be assigned. Possessors of large farms have more force to make sudden and vigorous exertions, by which every part of their work can be expeditiously done in the proper season; and their farms are primary, while small farms are only secondary objects of concern. Men naturally bestow most attention where their interest is most at stake. They, whose subsistence and profit wholly depend on the product of the ground, will cultivate it to the best advantage, while cadgers and mechanics, who have other more gainful employments, are apt to neglect their fields *.

A considerable part of this county still is, and probably will always be, in a state of nature, because there is no way of rendering it more productive, except at an expence which its amplest returns could never repay. This remark applies to most of the pasture district, which can only be improved by drains. To lime or marl its surface, would cost much more than the price at which it would sell in a market, and yet would not double its present rent. Belonging to distinct proprietors, being admirably adapted for sheep, and fully stocked with them; and even the morasses which cannot be pastured, yielding fuel, or manure, or both, it can in no sense be called *waste*. That harsh name, however, may be justly given to a small tract of heathy land near the county-town, the whole soil of which, in the course of centuries, has been completely stript off in turfs for fuel. Before good roads opened up ready access to coal, the inhabitants of Jedburgh and its neighbourhood used chiefly peats and turfs; and to supply them with the latter, the tenants around literally maintained their families, and paid their rents, by selling

* On this principle, I must plead for indulgence to the defects in this work. Other pursuits demanded the largest share of my time and thoughts, and obliged me to make it the amusement of my leisure hours.

ling the soil, till they reduced the ground to the most deplorable and irremediable sterility. No seed will vegetate; no plant can live! Still nearer to that town, there is a larger extent of admirable soil for turnip husbandry lying utterly neglected. When I add, that the tenants have leases of a tolerable length, at an easy rent, and the example of worse land around them in excellent culture, what forer reproach can be cast upon them?

CHAP.

ing the soil, all they reduced the ground to the most fertile and immediately fertile. No land will vegetate; on about an acre I shall have to that town, there is a large extent of admirable soil for turning husbandry, lying at a distance of about 10 miles from the town. When I add, that the tenants have been of a long time, it is an example of what land around them in excellent culture, what great results can be obtained upon it.

CHAP. XII.

IMPROVEMENTS.

SECT. I.—*Draining.*

A Great deal, both of the pasture and arable district, is drained. In the former, the drains are mostly open, from 16 inches to 2 ft. wide, and about 1 ft. or 14 inches deep, and made to run along declivities in such directions as will catch and carry off the greatest quantity of water. They cost about 1 d. each rood, and often only $1\frac{1}{2}$ d. the two roods of 6 yards each. In most lands 2 men will dig from 50 to 72 roods in a day; and, where they cannot do so much, they charge more for the rood. By these drains, land, which formerly retained and collected water, and produced nothing but rushes and unwholesome food, is converted into safe and valuable pasture, especially in winter, yielding sweet and nutritive grasses, and affording both meat and shelter during snow, when it is not remarkably deep and

and hardened by a severe frost succeeding a short and gentle thaw. Natural hay, too, is much improved in quality and increased in quantity by such drains, when they surround, or intersect, in a judicious manner, the swamps or meadows where it grows. A little attention to remove the stones and clods which tumble into them, the straggling straws, leaves and moss, which are blown into them by the wind, and the earth which in frost crumbles down from their sides, will preserve them a long while in good order; but, if this precaution be neglected, they will stand in need of being renewed in a very few years*.

A large portion of the arable district is so dry that no drains are necessary: and other parts are sufficiently drained by the plough, and the ditches thrown around inclosures when they are planned with skill. Marshy spots, in corn-fields, are sometimes made perfectly dry, by sinking a pit, till a stratum of sand or gravel appears, and then filling it up with loose stones. A furrow, a slight open drain, or even a covered one, according to the situation of the fields, conveys the water from the springs to the pit. In forming ridges, great care is taken to give the water an easy descent; and a furrow is often drawn across them to facilitate its passage. When springs, or surface-water, cannot be carried off by these simple means, drains are cut of different dimensions, and filled up in a different manner, according

* A farmer in this county, on reading an account of the manner in which some fenny lands in England are drained, thinks a similar attempt might be attended with success on marshy sheep-walks. By cutting and removing three rows of fods, each sod being precisely thirty inches long, ten broad, and six deep, by digging the space below the middle row to the depth of nine or ten inches more, and by replacing the fods across the cut or drain, through which, under this covering, the water may flow, marshes might be drained, and their whole surface preserved for the sheep. The experiment certainly deserves a fair trial.

ording to the nature of the ground, and the materials which can be got. The main drain, which receives all the water from the lesser ones, is often so wide as 4 ft. and about $3\frac{1}{2}$ ft. deep, sometimes both broader and deeper, especially when a large extent of wet land is drained, or when it pierces pieces of rising grounds. The rood of six yards costs, on stony or hard land, about 1 s. 4 d. or 1 s. 6 d. on easy-wrought land, from 8 d. to 1 s. But, except in very particular cases, this drain is only about 30 inches, or at most 3 ft. wide, from 26 to 36 inches deep, and from 1 ft. to 20 inches broad at the bottom, and is made for 9 d. or perhaps 1 s. on hard, and as low as $4\frac{1}{2}$ d. on soft land. The branches are generally about 2 ft. wide at the top, and 14 or even 18 inches at the bottom, the depth depending very much on particular circumstances, but being always sufficient to admit eight or ten inches of soil over the materials with which the drains are filled. They cost from 2 d. to 8 d. the rood, according to the nature of the ground. It is of importance to catch the springs; and, for this purpose, it is necessary to dig below the soil, and in some cases below the stratum on which it is incumbent. It is likewise of importance to keep the bottom as broad as possible; and the sides as perpendicular as can be done without danger of their giving way, that the water may have more room to find a vent, after depositing the mud and sand which it forces along. Hence their depth, and their width both at top and bottom, may sometimes exceed the above dimensions, and the expence of making them be proportionably increased. Their sides are frequently lined with flat stones set on their edges, which prevent the earth from mouldering down, and leave space enough for the water to drip into the drain. Main drains, and even some cross-drains, are often built like sewers, to the height of 8, 10, and perhaps 14 inches, and from 12 to 18 inches wide, both height and width

width being proportioned to the quantity of water computed to pass. They are then covered, first with flags or coarse stones of sufficient length, next with small stones, and lastly with inverted turfs, straw, rushes, quickweeds or brushwood, to prevent the earth that is laid above from sinking into the drain in the course of ploughing. But a more common method is to pick out the largest and roundest stones, and lay them in rows along the middle and sides of the drain, at such a distance as to allow several passages of two or more inches between the rows, through one or other of which the water may always run. The stones approaching nearest to that size are laid, immediately above these, so as to leave similar interstices, in case all the lower ones should, in process of time, be choked with mud. The smaller stones are then thrown in, and covered with inverted turfs, &c. as already described. Equal attention is not paid to the lesser drains. They are commonly filled with stones, tumbled into them out of the cart, but covered in the same careful manner.

Among other improvements, Mr Dawson, not having stones for some drains on his farm at Frogden, had recourse to an admirable expedient, which he had seen in Essex, for supplying that want. With implements contrived for the purpose, he made the drains wide at the top, of the necessary depth, and very narrow at the bottom. He then filled them with broom, placing the bare stalks undermost, to leave ample space for the water, and compressing their bushy tops above, to present a close and firm covering, through which the earth can penetrate but a very little way. Some of them have lasted upwards of 30 years, without any appearance of failure.

After all the numerous and expensive drains which have been made, much still remains to be done in this way, both in the pasture and arable district.

SECT.

SECT. II.—*Paring and Burning.*

SOME years ago, huge crops were raised by paring and burning, to the great emolument of the tenants, but much to the prejudice of their farms and their successors. The perniciousness of the practice is evinced by its being generally abandoned. It is, however, the opinion of intelligent farmers, that there are many fields in Roxburghshire, of a deep soil, and at a distance from other manure, where paring and burning would be a substantial improvement, if they were, at the same time, properly drained, cleared from stones, neatly ridged, and gently cropped. But as it reduces to ashes some of the best soil, and has hurt ten acres for every one it has benefited, it should be prohibited or subjected to severe restrictions in all leases.

SECT. III.—*Manuring.*

THE manures, chiefly used in this county, are dung, marl, lime, and compost.

All the animals about a farm-yard are plentifully supplied with litter, to retain their dung and urine; the stables and cow-houses are regularly cleaned every day, those where feeding cattle are kept much oftener, hog-stys and hen-houses twice or thrice in a week; and what is gathered there, the ashes produced in the dwelling-house, and the rubbish of thatched houses, are generally all carried to the same dunghill. If the thatched houses have been inhabited, their roofs saturated with soot make excellent muck. This mass is, sometimes, allowed to remain untouched until

til it is laid upon the land, sometimes, is turned over in the court or piace where it was formed, and sometimes, is removed to the field appropriated for it, to remain there in a heap and to be turned over as often as may be necessary until it is used. While in the court it is trodden by cattle. Some farmers, sensible that this retards the fermentation, either carry it away soon, or convert their court into a straw-yard for feeding young cattle, and find some spot near their offices for a dunghill, to which cattle have not access. In many places, particularly in towns and villages, the streets and roads are scoured, and the mud and filth collected from them are thrown upon the dunghills. Nor is it unusual, when a dunghill is placed in a field, to intermix with it thin layers of a good soil. In both cases, however, and especially in the former, the seeds and roots of noxious weeds are apt to harbour in the dung, and spring up in the land. With the exception of a few instances, where poor land has got an immense or rich land a trifling dose, the average rate of this dung, given through the county to an acre, may be from 20 to 24 carts, of 15 or 16 cwt. each, or from 16 to 20 tons. Such a cart-load when bought fetches about 2 s. But very little dung is sold. Most of the villagers and cottagers are desirous of having, each his own pittance laid on a separate lot of land, on which they plant potatoes, or perhaps sow lint: And generally some farmer accommodates them for the sake of getting his land well dunged, and of their giving him some work in harvest. The common terms are, that the farmer does all parts of the work where horses are required; and that the people furnish their own seed, perform all the manual labour, and have the whole produce. This plan deserves commendation for its humanity in providing the poor with food at an easy rate; but the farmer loses the advantage of mixing their various kinds of dung into one heap with
that

that raised by himself, and runs the risk of having not a few ridges miserably neglected, and of seeing, in the following season, a patched field, with some spots too luxuriant, some almost parched, and some full of weeds, according to the different qualities of the dung, and the different degrees of culture bestowed on the preceding crop,

When cattle are well littered, and fully fed with turnips, about 12 of them will yield a cart of dung in 24 hours; but that quantity will scarcely be produced by 16 or even 18 kept on straw, with a small allowance of turnips to preserve them fresh and sleek. An acre of very good turnips, with an adequate proportion of straw, will make upwards of 16 cart-load of dung; but 10 will be a large enough average for all the acres in the county. Thus nearly the produce of two acres will be requisite to dung one the ensuing season. Manure, for the rest of the lot in turnips and potatoes, is furnished, by the horses and other cattle on the farm, and by the dunghills scraped together by cottagers. Turnip fields, when once brought into good order, and into a regular rotation, generally get a scantier supply of dung, not above 14 or 15 cart-load, or from 10 to 12 tons; the deficiency being made up, sometimes by a small quantity of lime or marl, but more frequently by the dung and urine of sheep when eating the turnips. Fine fields are raised often by lime or marl without dung.

Marl was first used, about 40 years ago, by a gentleman of considerable property, and by an actual farmer. Sir Gilbert Elliot of Minto*, then a Lord of Session, and afterwards Lord Justice-Clerk, observing the good effect of marl on some lands in the county of Angus, drained a mo-
rafs

* Father to the late, and grandfather to the present Baronet of the same name.

rafs on his own eftate, about the year 1755, and laid fhell marl on 200 acres, or thereabout, of inclofed land, all in tillage, but immediately laid into grafs*. The attempt excited the wonder of fome, and the ridicule of others. A young farmer, who took the marled inclofures at what was then thought an exorbitant rent, declares that he has never fince had fuch cheap and productive land, although the foil is a ftiff clay, to which of all others marl is leaft adapted. About a year or two before that time, Mr Dawson, returning from England, immediately began to lay clay marl, on part of a farm at Harpertown, below Kelfo, then poffeffed by his father, at the rate of 330 coop-carts *per* acre. Inftead of dropping the attempt, as Lord Minto feems to have done, he persevered for feveral years, till better accefs was opened up to lime, and till he found, that, owing to the trouble and expence attending marl, the number of labourers it required, and the high wages they demanded, he could manure a greater extent of ground yearly with lime at a cheaper rate. Clay marl has been little ufed ever fince. But fhell marl was fearchcd for and found in different parts of the county. Moraffes were drained, and pits dug at Eckford, Clarilaw, and other places. But none had accefs to them, except the tenants of the different proprietors. In the year 1772, it was firft expofed to public fale at Whitmoorhall, towards the N. W. extremity of the county, at 4 d. the fingle-horfe cart, containing about two bolls, or 16 cubic ft., wet as it comes from the pit. It is now raifed to 10 d. Purchafers generally fend a number of fervants and carts to the pit. The carts are filled alternately, and unloaded on fome adjacent fpot, fo
near

* At that time, it was not a common practice to meafure land, far lefs to allot a certain allowance of dung or marl to the acre. The fields are known to contain the number of acres fpecified above; but the quantity of marl laid on the acre can only be gueffed by thofe who faw it at 30 carts.

near that from 50 to 60 carts can be filled and emptied in a day: The marl remains there till it becomes dry, and loses about one-fifth part of its bulk and weight. About 25 carts brought wet from the pit, shrunk into 20 when carried home, are laid on an acre of light land. This is the least quantity, and thought rather a scanty allowance. Most people give 24 or 25 carts of dried marl, and some to the extent of 50. The length of carriage, as well as the nature of the soil, frequently determine both the size of cart-loads, and the number of them given to an acre. Clay lands require the largest dose, and receive the greatest benefit from marl laid on the surface of grass. In two or three years, it is completely incorporated with the sod, enriches and sweetens the pasture, and yields luxuriant crops when the fields are afterwards in tillage. On such lands it is not unusual to lay 80 or 100 bolls, and often a much greater quantity. The average prime cost of marl, to an acre of light soil, may be from 25 to 40 s., and of heavy, from 2 guineas to 50 s. The expence of carriage must depend very much on the distance and the roads. In tolerable roads, the same man and horses can go and return, 4 times every day when the distance is only 3 miles, thrice every day when the distance is 4 miles, twice when the distance is 5 or 6 miles, and thrice every two days when the distance is 7, 8, or 9 miles. Estimating the labour of a man with 2 horses and 2 carts only at 5 s. 4 d. *per* day, the carriage of every boll will be 4 d. for 3 miles, nearly 5½ d. for 4 miles, 8 d. for 5 or 6 miles, and 10½ d. for 7, 8, or 9 miles. Thus, an acre of light land, according to its distance from the pit, may be marled at the under-mentioned rates:

Prime cost of 30 carts of marl from the pit, at 10 d.			
each,	-	-	L. 1 5 0
		Carried forward	L. 1 5 0

Brought forward	L.	1	5	0
Carriage of 24 carts of dried marl 3 miles, at				
8 d. each,			0	16 0
Total,	L.	2	1	0

Prime cost of 60 carts as formerly, at 10 d.				
each,			L.	2 10 0
Carriage of it dried into 48 carts for 3 miles,				
at 8 d. each,				1 12 0
Total,	L.	4	2	0

Again,

Prime cost of 30 carts from the pit, at 10 d.				
each,			L.	1 5 0
Carriage of it dried into 24 carts 8 miles, at				
1 s. 8 d. each,				2 0 0
Total,	L.	3	5	0

Prime cost of 60 carts as formerly,			L.	2 10 0
Carriage of it dried into 48 carts 8 miles, at				
1 s. 8 d. each,				4 0 0
Total,	L.	6	10	0

Hence the average expence of marling light land, at the distance of 3 miles, is L. 3 : 1 : 6 *per* acre; and, at 8 miles, is L. 4 : 17 : 6. And every reader, who may take the trouble of making similar computations, will find, that the average expence of marling heavy land, at the distance of 3 miles, is L. 3 : 7 : 6, and at 8 miles, is L. 5 : 12 : 6, allowing 90 bolls or 45 single-horse carts to each acre. But a much larger quantity is frequently given, and several extensive fields have been marled at the rate of L. 10 Sterling *per* acre.

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Besides the distance and expence of carriage, marl is attended with the disadvantage of retarding corn from ripening. Though this effect is chiefly felt in cold and exposed lands, yet it takes place in some degree in warm and early soils. In several places, the grain, sown on one half of a field manured with lime, will be 12 or 15 days earlier ready, than the same grain sown at the same time on the other half manured with marl. The grain, too, on the marled land, will be a tenth part lighter. But, in a favourable soil and climate, the difference is not so discernible. The one is generally ripe, or nearly so, as soon as the other is cut down, and the grains are almost of equal quality. It is also observed, that after lands, properly marled gently cropped and laid in grass, are broken up again by the plough, they bring crops as early, if not earlier, to maturity, than if they had not been marled. In all soils and climates, marl, when judiciously applied, is found to make excellent grass. Hence high and bleak lands, especially if inclining to clay, after being marled, should be kept in hay or pasture: and even in low and rich fields, when sufficiently marled and properly managed, clover will always be a luxuriant and profitable crop. The effects of marl are seldom immediate, but generally lasting, except when the land manured with it has been exhausted by over-cropping; an evil which has been felt, but is not much to be dreaded from the present experienced farmers in Roxburghshire.

Lime as a manure was known and used as early as marl; but want of fuel prevented it from being burned in those parts of the county where it abounds, and owing to bad roads little of it was brought from a distance. It was not till the great road to England, by Coldstream-bridge, opened a readier access to the kilns in the eastern parts of Northumberland, that it began to supersede marl in the
lower

lower parts of Roxburghshire, and till turnpike roads were made in the county itself, that the use of it became general. Mr Brown, late of Elliestoun, * deserves to be recorded, both as a principal promoter of a road thro' the centre of the county, and also as one of the first great proprietors, who brought lime by that road, and the western road by Gala-water, from Mid-Lothian, and by cross-roads from Northumberland, each 27 or 28 miles from his estate, in such quantities as to manure completely at least 150 acres; at a time, too, when such an undertaking was apt to be considered as a certain indication, either of a disordered mind, or of an overflowing purse. Since that time, lime has recommended itself to such favour in every part of the county, as a quicker and more powerful agent than marl, and in most places obtained at an easier rate, that there is frequently a greater demand for it than can be answered.

Farmers towards the north are supplied with lime from Mid-Lothian, at the distance of from 20 to 30 miles, and bring it as return carriage, mostly in two-horse carts, containing 3 bolls each, tho' sometimes in one-horse carts, containing 2 bolls each. The boll is 4 firlots Linlithgow measure, and costs now 1 s., formerly only 10 d., at the kiln. Those towards the east get lime from the lower parts of Northumberland. The distance is less only from 12 to 24 miles; the lime is of a better quality; and the measure is larger; but the advantage of a double carriage is lost. The boll here is about $2\frac{6}{10}$ Linlithgow firlots; it costs at an average $7\frac{1}{2}$ d.; and 5 bolls load a double cart. Hence the load is only $1\frac{1}{2}$ d. higher than from Mid-Lothian, and it contains a Linlithgow firlot more. For several years, the neighbourhood of Jedburgh have been furnished with lime from the
higher

* Now a Commissioner of Excise in Scotland.

higher or north-west part of Northumberland, on Reed-water. It is carried from 16 to 30 miles. Empty carts are sent for it. It costs 7 d. *per* boll, which is nearly equal to $2\frac{1}{2}$ Linlithgow firlots; and 5 of them is the common load of a two-horse cart. But it is of a superior quality to every other lime known in the county, and the road is excellent, though carried through a hilly country, and in one place about 1500 feet above the sea. The western district is supplied with lime burned in the county, or in the neighbouring county of Dumfries. The lime made in the county sells for 11 d. *per* boll of 2 Linlithgow firlots; but its inferiority confines the demand within the narrow space of 9 or 10 miles. That got in Dumfries-shire is so much better, that it is brought above 30 miles. It costs indeed only 7 d. *per* boll. The measures are the same, and 6 bolls load a double cart. Lime equally good is found in Liddefdale, but it has already been observed, * that for want of roads little of it is used. It is highly worthy of honourable mention, in a work of this kind, that a farmer, at an equal distance of 26 miles from the two Northumberland lime-kilns, on the east and south, in one season, carried lime from each nearly in equal quantities, for 130 acres, at the rate of 6 carts *per* acre or 31 Northumberland bolls; each boll, including carriage, being 2 s. 8½ d.; each acre being nearly 4 guineas; and the whole sum laid out amounting to L. 545 : 14 : 7. I have the pleasure of adding, that this spirited exertion has been abundantly rewarded by three excellent crops, of turnips, barley, and clover with grasses.

The quantity of lime here given may be considered as the general average for an acre of light land. Heavy lands require at least 8 such carts, more frequently get 10, and sometimes

* Chap. I. Sect. 5.

sometimes 16; this last making the expence of manuring an acre at the same distance of 26 miles L. 10 : 16 : 8, and at 30 miles about L. 12. The carriage may be stated at $4\frac{1}{2}$ d. *per* mile for a two-horse cart. Allowing 10 of these as the average for clay, and 6 for light soils, the expence of liming an acre of each may be easily calculated, according to its distance from the lime-kilns.

Greater pains are taken to incorporate both marl and lime with heavy than with light soils. After they are spread on heavy land, it receives always 2, and often 3 ploughings, and as many harrowings. Light land, when previously well pulverised, is generally but once ploughed, and sometimes lime is only harrowed into it : but marl must be earlier and more thoroughly mixed with the soil, that it may operate more quickly ; and after all, its beneficial effects may not be fully felt on the first, or even on the second crop. Lime is seldom, if ever, laid on the surface of grass fields.

Composts of different kinds have been used, though not so frequently as might be expected, from the distance of lime, and the toil and expence of marl. When first tried, having been unskilfully made, the roots and seeds of weeds adhered to the component parts, retained their vegetative quality, and overran the fields on which composts were laid. On this account they were for some time in disrepute, but begin to be better understood, and more skilfully managed. Lime or marl is always one principal ingredient. Lime is mixed with earth, moss, turf, straw, rubbish, the stuff dug out of ditches and drains, or scraped together from streets and roads, and the refuse of gardens. All, or part of these, are thrown together in larger or smaller quantities as they can be got. Care is taken to keep them free from weeds, and

to

to apply as much lime in regular strata as will completely reduce them to powder. Composts are also made of lime, and weeds alone freed as well as possible from earth, the proportion of lime being always sufficient to destroy their power of vegetation. In all these composts, much depends not only on the quantity of lime, but also on its being attentively embodied into the other materials, and allowed time to operate its full effect on them. Marl is only mixed with moss, straw, or rubbish. With moss it has been found to answer vastly well on lands inclinable to clay; and both with moss and the other ingredients it fertilises lighter lands. But the mixture must be carefully made, and not too soon carried to the land. Time must always be given for the materials to corrupt and to coalesce.

Composts are likewise made of lime or marl with earth. But the earth is erroneously taken from the surface, where baneful seeds may lurk unperceived. By dipping below it for fresh soil never before stirred, purer and richer composts might be made with smaller proportions of lime or marl, and at less expence. Virgin earth is itself a manure, readily unites with lime or marl, ferments soon and vigorously, and becomes a mass of complete putrefaction.

SECT. IV.—Weeding.

ALL that can be observed, on this particular, has been already anticipated in Chap. VII. Sections 4th and 5th, to which the reader is referred.

SECT.

SECT. V.—*Watering.*

WATERING has not hitherto been attempted; but there are so many places in the county, to which it would be advantageous, that some gentlemen and farmers propose, either to bring down a skilful operator in that line from some part of England where it is practised, or to send some person of education and intelligence thither to be instructed in the art.

SECT. I.—*Black Cattle.*

CHAP.

C H A P. XIII.
L I V E S T O C K.

SECT. I.—*Black Cattle.*

IF ever there was a breed of black cattle peculiar to this county, it cannot now be distinguished. For several years, a number of the Northumberland, Lancashire, Galloway, and west country kinds, a few of the Dutch and Guernsey, and many from the northern counties of Scotland, have been brought into Roxburghshire; and their offspring, from various crosses with each other, forms the principal part of its present motley stock. The milch cows are in general short-horned, deep-ribbed, and of a red and white colour; but are also found polled, and of every various horn, shape, and colour. In the more level and richer part of the county, they approach in size and quality towards the large improved breed, which has of late been carefully reared in the contiguous district of Northumberland. Their milk and butter are excellent, and they weigh when fattened from 45 to 60 stones*. Those of a lesser size somewhat exceeding

* From 56 to 78 or 80 stone English.

exceeding half that weight, are found to thrive best in the higher grounds. Two kinds begin to obtain a preference, as giving from 8 to 12 Scotch pints every day during summer of rich milk, yielding butter of an admirable flavour, and being easy feeders; one of them is the polled or Galloway kind, whose properties are well known over all the island; and the other is a breed with small horns of a middling length, thin necks, round deep bodies, and short stout legs. Each of these will reach, when properly fed, from 32* to 45 stones. And from 36 to 40 stones may be considered as the average of fat cattle through the county. As some gentlemen and farmers, of late, are at great pains in the choice of their bulls, there is reason to hope that these two breeds may be brought to greater perfection, or that a better than either, with all the best properties of both, may be procured from some judicious or fortunate mixture.

But great attention will not probably be paid to this object, while the markets at Kelso and Jedburgh maintain their character for fine veal, and while farmers draw greater profits from feeding than from their dairies. About 620 calves are killed every year by the butchers in Kelso alone †, and 1400 more may be safely allotted to Jedburgh, Hawick, and other lesser markets in the county, besides what are carried out of it, and fed by private families for their own use. The prodigious quantity of milk, necessary to fatten even 2000 calves ‡, and to rear nearly as many, is one reason why very little cheese is made, and no more butter than is barely sufficient for the consumpt of the inhabitants, and for salving the sheep. Liddesdale is to

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* From 40 to 56½ stones English,

† See Statistical Account of Kelso, vol. 10. p. 590.

‡ The average rate is about 7 or 8 pints *per* day, for 5 or 6 weeks each, to calves when fattening, and about four or five pints to such as are reared, for thirteen or perhaps sixteen weeks.

be excepted, where butter and cheese are sold to the amount of L. 1000 a-year; and where the nature of the soil will probably call the attention of farmers to increase the number and improve the breed of milch cows. In the rest of this large county, they are objects of inferior attention to spayed queys and oxen intended for the stall. Yet the number, reared annually for this purpose, bears an inconsiderable proportion to those, which are bought in autumn and the beginning of winter in Northumberland, at the northern tryfts, or on their road passing to England. These, and many others, bred in the neighbourhood, or collected from different corners, when of a proper age, and in tolerable condition, are fed on turnips, and sold as soon as they are decently fat, or kept on till the end of spring in hopes of higher prices; but, when very young or lean*, they get only straw, coarse hay, and the refuse of turnips, till they are turned out to grass about the beginning or middle of May, and, if not fit for the butcher by the end of harvest, are then brought into the turnip stall. They are tied to the stake by the neck or by the horns; and there are several contrivances to prevent them from raising their heads so high as to swallow, without chewing it, a small turnip, or a piece of a large one, by which they run the risk of being choked. To chain them by the horns, besides answering this purpose, has the further advantage of keeping them from licking themselves, which both carries hairs into their stomachs, and discolours the flesh of the parts exposed to the tongue. Care is taken to rub them well with old curry-combs and brushes, to remove their dung, and to give them fresh litter, at least twice or thrice every day, and oftener if necessary. The bulbs of
turnips

* It is thought that the present high price of butcher-meat will induce farmers to feed even *young* and *lean* cattle as quickly as possible, instead of keeping them over winter to be fattened on next summer's grass.

turnips are thrown before them every morning and afternoon till they are satiated *. At night they get a little straw and sometimes hay; and they lie down 4 or 5 hours at mid-day, and 9 or 10 during the night. They are never loosened nor allowed to taste water, and by some they are bled as often as occasion requires. Some farmers are of opinion that they will fatten as fast, and that their flesh will be better, by allowing them liberty, at times, to breathe the fresh air in the straw-yard. There can be no doubt of this treatment being salubrious, if there is no danger of their hurting each other. Their increase in weight and price depends, in a great measure, on their tendency to grow fat, on their management, and on the length of time they are fed. In 4 or 5 months, they add, at an average, about one fourth to the weight at which they were tied up, and yield about 36 *per cent.* of profit on the money paid for them. When kept over two winters, their weight is generally more than doubled, and their profit is commonly above *cent. per cent.* Three of them will nearly fatten on two acres of good turnips, the average value of which may therefore be computed at L. 3, 15 s. or L. 4 *per acre*. There cannot be fewer than 6000 † black cattle of all ages and sizes fed annually.

But

* Some farmers allege, with great plausibility, that cattle ought never to be satiated, but to get a certain allowance regularly, and to be left with a craving appetite; and that they ought also to get a little straw or hay in the middle of the day.

† This number may be thought wholly inadequate to the great quantity of land stated to be in turnips, (Chap. VII. Sect. 4.), especially if 3 bullocks can be fed on 2 acres. But it is given as an average for several years, and the average quantity of land in turnips, during that period, was at least 6000 acres less than it is at present. Allowing it to be 18000 acres, one-third of it must be computed to fail altogether, or to yield little produce; the largest half of the remainder is consumed by sheep designed for the shambles, or by the stock on the farm, whether black cattle or sheep, to enlarge their size, and keep them

But this number will probably decrease, in proportion as sheep are found equally profitable with less trouble.

Few oxen are employed in husbandry, nor is it probable that here they will ever come into great request. For tho' they are more easily maintained than horses, can be trained both to the plough and cart, and can be fed to great advantage after being wrought, yet they are unfit for the long carriages of grain, lime, and coals, they are less docile than horses, must be oftener renewed, and cannot stand fatigue so well, or perform any work so expeditiously; and dispatch is of vast importance to a farmer, especially in an inland county, where his profits may often depend on his getting manure brought quickly to his land, his seed, particularly turnips, quickly sown, and his grain sent quickly to market. They may be of considerable use, however, in breaking up new ground, while horses are fetching marl or lime to it. And it is not improbable that, in many places, they may be yoked in thrashing machines, to free horses from a motion which some allege is hurtful to them, and to prevent them from being taken from other labours, where speed is more requisite.

Black

them in good plight; so that scarcely more than 5000 or at most 6000 acres are left for the feeding cattle; and these, at an average, cannot be reckoned so *very good* as to feed more than a bullock each, or perhaps 4 of them may feed 5. On the other hand, the number of fat cattle may appear disproportionately great to the 700 annually killed at Kelso (Statistical Account, vol. 10. p. 590). But the quantity of veal sold there bears a much larger proportion to what is used in the county, than the quantity of beef does. More than three times that number of beeves are annually killed in the other markets and by private families. And nearly two-thirds of those fed in the county are carried to Northumberland and Mid-Lothian. According to both these views, the actual number of black cattle should exceed 7000, and I must be quite safe in stating it above 6000.

Black cattle, in every period of their lives, are subject to several diseases. Calves, during the first three or four weeks, are sometimes seized with an inflammation in the intestines, provincially called the *liver-crook* or *strings*. It is attended with a strangury and seldom cured; though bleeding gently, in an early stage, has been successful, and it may be prevented by cutting the navel-string of the calf, when newly dropped, till it bleeds. About the same age, they have been attacked with a swelling in the joints of their hind-legs, which may be cured by frequent fomentations and poultices of chamomile and other herbs, and by rubbing the parts with flannel immediately after the fomentation, and on changing the poultice. There are likewise instances of their being carried off by water in the head, called here a *sturdy*; but none of these diseases are frequent, though the first mentioned is the most common.

Young cattle, from one to three years old, are subject to a disease called the *rot*, a kind of consumption, occasioned by improper exposure to damps either from the atmosphere or soil, and sometimes by want of wholesome food. It appears in a kind of soft watery swelling below the jaws, which has been in one or two instances let out with success; but the disease for the most part, especially in warm weather and in good pasture, terminates in a violent and mortal flux.

Aged cattle, especially females, are liable to be hidebound, a disease known here and in the neighbouring counties by the name of the *fell-ill*. The *fell* or skin, instead of being soft and loose, becomes hard, and sticks closely to the flesh and bones, a state in which no creature can thrive. The cure is bleeding, and laxative and nourishing food. Herbs, boiled in new ale or mashees of malt, with some butter and a little grated ginger, should be given lukewarm,
till

till the disease begins to yield, and then green food, or boiled meat well cooled. This disease is very often accompanied by another in the tail. One of those gristly members, of which it is composed, becomes soft, and must be freed from hair, slit longwise till it bleeds freely, plastered with garlic and foot, and covered for some days with a rag till it heals. By eating some venomous plants, their tongue sometimes swells, and pustules rise upon it. Till these are opened and washed with salt and water, cattle cannot pluck and chew their food. When reared on open pasture, and afterwards carried to fields where there is heath or brush-wood, they are seized frequently with a serious and alarming disease, called the *wood-ill*, and sometimes the *moor-ill*, generally ascribed to their eating some herbage growing among the heath or bushes, to which they were not accustomed from their infancy. Their head swells, their eyes are inflamed, their urine is red, and they become very colicive. A handful of salt mixed with a mutchkin* of more of their own blood, as it comes warm from their veins, poured down their throats, is a common and successful remedy. Port-wine and bark have also been attended with a good effect. An English pint of salt and water, given twice a-day for a week or more, till they are reconciled to the pasture, and then gradually lessened, is a good preventive. Vermin, which sometimes infest them in spring, are destroyed by tar-water and salt, by black-soap made into an ointment with gunpowder, and by tobacco-juice. The *scab*, or a kind of itch with incrusted and virulent pustules, with which they are also, though rarely, visited, is more infectious, and difficult to be cured. They are bathed or rubbed with preparations of sulphur and nitre; but without care to keep them warm, this remedy has proven fatal.

* Somewhat less than an English pint.

tal. A strong mercurial ointment will remove both vermin and scab more speedily, and with less danger, if the animals are kept, for two or three days, on aperient food and drink gently warmed, and get a purgative when the outward application is over. In wet weather, ulcers arise in the clefts of their hoofs, which are easily cured by washing and rubbing them till they bleed, applying a little spirit of vitriol, and keeping them dry for a few days. Cows sometimes cast their calves in spring; and, as this misfortune generally happens to more than one of a herd, it is attributed to improper food, especially to coarse hay, when much spoiled and smelling disagreeably; which shews the vast importance of giving wholesome provender to cattle. When bad hay is not quite corrupted, it may be corrected, in some degree, by being exposed to a keen penetrating air, and sprinkled with salt and water immediately before it is used.

Cows, when put upon good pasture to be fattened, are apt to suffer much from healed udders, occasioned by the milk not going entirely from them, or by its returning through the influence of the grass, after having left them while eating dry fodder. If the suppurated matter, with some assistance from a skilful hand, does not find a proper vent for itself, it becomes necessary sometimes to cut off one of the dugs to allow it a full discharge. In either case, the part is frequently anointed with a mixture of tar and butter, to keep the wound open and free from flies. The best preventives are, to milk the teats perfectly dry without leaving the least drop, and not to touch them again though milk should gather, to bleed the animal every ten or twelve days, and to give her for some days draughts of tar, alum, madder, vinegar, and other astringents mixed with or dissolved in water.

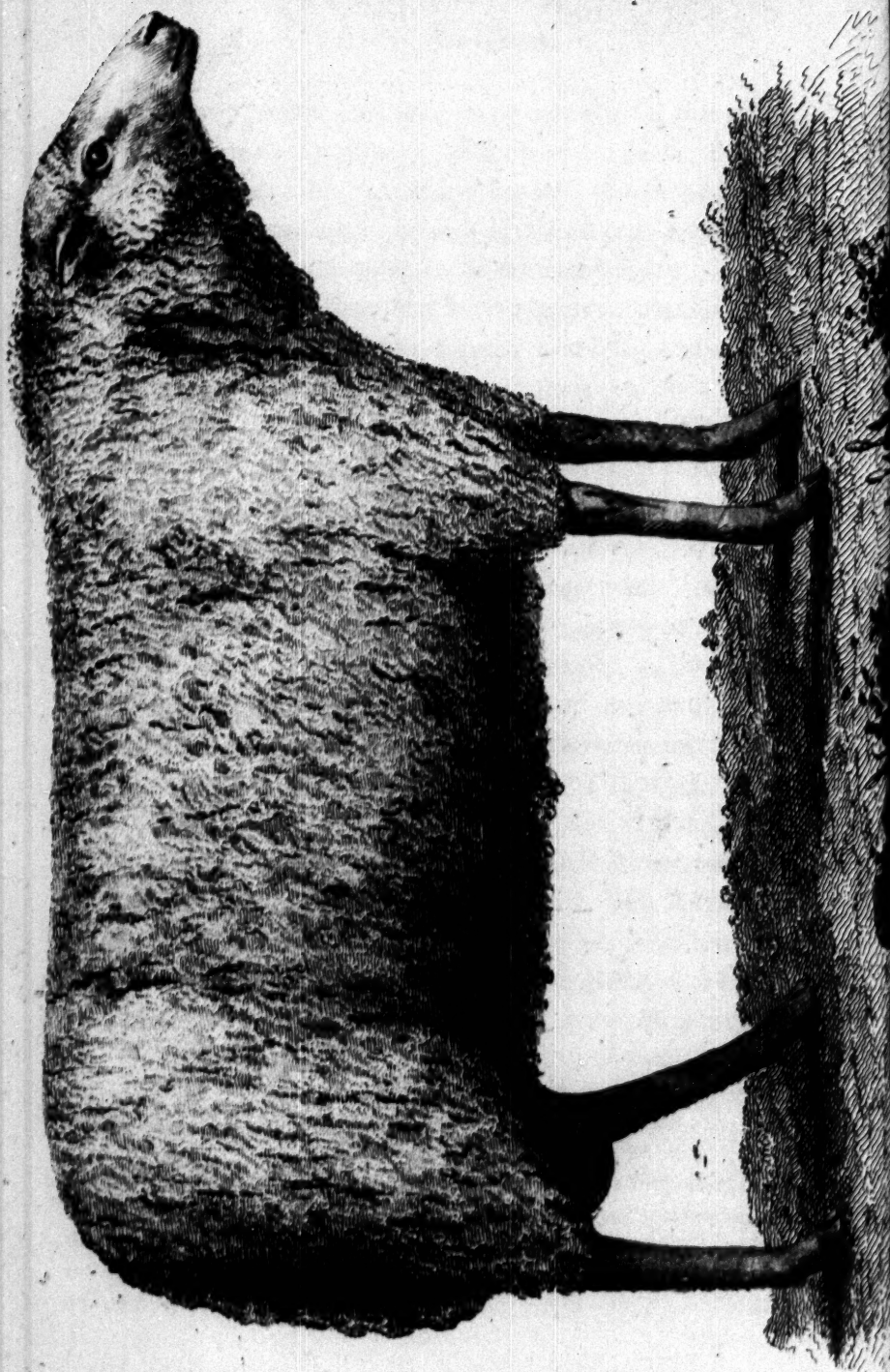
SECT. II.—*Sheep.*

ROXBURGHSHIRE has long been famous for the number and excellence of its sheep. Those, with black faces and legs, short bodies, and coarse wool, are now wholly given up as a breeding stock. A few of them are kept for the table, because their mutton has a delicate flavour. The vast superiority of their wool has, every where, obtained a decided preference for the white-faced and long-bodied kind; and attempts are daily making to improve their carcases, without injuring the quality of their fleeces. Their chief defect is low and thin shoulders; to remedy which, three farmers, viz. Mr John Edmiston, late of Mindrum, and Mr James Robson, then at Philhope, both in Northumberland, and Mr Charles Ker, then at Riccaltoun in this county, went to Lincolnshire about 40 years * ago, before the breed there had degenerated, and purchased 14 rams, picked out of threescore in the possession of one man. These rams were white-faced; had excellent forequarters; carried a great quantity of fine and close wool with little waste or coarse in it; and throve well. They improved Mr Ker's sheep very much in shape and carcase, and increased both the quantity and quality of their wool. Mr Robson sold the first wedders produced from crossing his ewes with them at a considerable advance. He brought their progeny into
Roxburghshire

* This fact is mentioned in the General View of the Agriculture of Northumberland, p. 21. as having happened *thirty-three* years before 1794; but as Mr Robson came to Scotland in 1760, and had these rams four or five years before he left Northumberland, it must have been about forty years since the experiment was tried. I embrace this opportunity of acknowledging the instruction and assistance which I have received, in drawing up this work, from the sensible observations made in that publication, and in Mr Culley's Treatise on Live Stock.

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WHITEFACED or CHIVOT RAM, with some mixture of the DISHLEY BLOOD.



Roxburghshire in 1760, and is decidedly of opinion, that the effects of this cross, in meliorating the chine, the fore-quarter, and the wool, still remain in his flocks: Since that time, by various changes of rams, some of which have a portion of the Dishley breed, and by a judicious selection of shapely ewes for breeding, several neighbouring flocks may vie with those of Mr Robson; and there is reason to hope, that a continuance of the same spirit of inquiry and enterprise may bring them to still greater perfection.

Wethers of such improved flocks, when sold by the breeders a little fed at $3\frac{1}{2}$ years old, are at an average about 14 lib. * *per* quarter; ewes scarcely eleven. The former feed to 18 lib. † often higher, according to the season, the pasture, and the time they are kept at grass or turnips; the latter are sold lean, to breed from a year or two in other places, and then are fed on turnips, when they reach from 14 to 16 lib. In the northern parts of the county, where this improved breed is only slowly making its way, wethers on the hill rarely exceed $10\frac{1}{2}$ lib., and ewes $8\frac{1}{2}$ or 9 lib.; and feed, the former to 14 or $14\frac{1}{2}$ sometimes to 15 lib., the latter generally to 12 lib. or perhaps a little more.

It seems to be admitted, that an acre will nearly maintain a sheep to the south of Jedwater, but that to the north of it about $1\frac{1}{4}$ of an acre will be requisite, and that in a great part of Liddesdale a sheep will eat almost the whole produce of two acres. Intelligent farmers, in different corners, who are well acquainted with the whole county, agree that somewhat more than $1\frac{1}{2}$ of an acre, and somewhat less than $1\frac{1}{3}$ of an acre, may be allowed to each sheep. The former would make their number 206,438, the latter 193,538, and

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the

* About $17\frac{1}{2}$ lib. English.

† Above 22 lib. English.

the exact medium is a mere trifle below 200,000, which cannot be far from the truth. Hence their real value can be easily ascertained, both at their present high prices of 20 s. or a guinea, or at their former and more common rates of 15 s. or 16 s. a-piece.

The relative proportion of wethers, ewes, and young sheep, kept on different farms, varies, according to the nature and exposure of the pasture, and sometimes according to accidental circumstances. Grounds, where young sheep are liable to diseases, are naturally stocked with those which are aged; while the weaned lambs, here called *hogs*, are sent to more healthy pastures. In some farms ewes only are kept, and in others wethers, which last are bought young, and, after two or three years, are sold to the grazier or butcher. One-half of the stock upon a breeding farm, when enumerated at the time of salving, is generally supposed to consist of ewes from which lambs are expected the following season; somewhat more than two-thirds of the other half are wethers young and old; and the remainder are ewe-hogs, to supply the place of such old ones as may be sent to market during the next year, either because of their missing a lamb, or of their growing too old for breeders.

A few years ago, salving sheep with tar was, in several places, on the decline, from the higher price given for white wool, but is again gaining ground, as the same advanced price cannot now be obtained. Of white wool about 10 fleeces are requisite to make a stone, and in 1795 it brought L. 1, 3 s. which is only 2 s. $3\frac{6}{10}$ d. *per fleece*; whereas a stone of salved wool has scarcely 8 fleeces, and that year sold for L. 1, 1 s. or 2 s. $7\frac{1}{2}$ d. *per fleece*. This increase, indeed, will barely defray the expence of salving the
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the sheep; but while farmers are not tempted by larger profits, they will return to a practice, which has been found, by experience, to keep their flocks warm and free from vermin during winter, and to produce wool of a finer pile as well as in greater abundance. It should also be mentioned, that 8 fleeces of salved wool weigh rather more than a stone; for $7\frac{1}{2}$ or $7\frac{1}{4}$ fleeces are reckoned an average stone of all the wool in the county: And considering the many parcels, which are annually produced, of fleeces from 5 to 7 *per* stone, in comparison of the few which require 9 and 10 to the stone, that average must be pretty just. Allowing, however, 8 fleeces to every stone, the annual quantity in the county will be 25,000 stone, which in 1795 amounted to as many pounds Sterling, and this year was about one-fifth more.

At the end of autumn the operation of salving begins, and, except in a very unfavourable season, is finished before Martinmas. It can only be performed to advantage when the fleece is dry. The general rule, formerly, was to use equal quantities of tar and butter; and little regard was paid to the quality of either. Such a load of indifferent tar both hurt the wool, and was an unnecessary burden on the sheep. Care is, now, taken to procure good tar; and a much greater proportion of butter is added, at least a third part, commonly more. With two gallons* of tar some mix $1\frac{1}{2}$ † stone of butter, as a sufficient allowance for three score of sheep. But, for the same number, it is more common to allot only one stone of butter to two gallons of tar‡. To incorporate

* English measure

† Equal to 36 lib. English.

‡ 1 stone butter,
2 gallons tar,

L. 0 13 4
0 3 0

For 60 sheep, L. 0 16 4

And for each sheep about 0 0 $3\frac{1}{2}$
But

incorporate them completely, the butter is slowly melted and poured upon the tar, and they are constantly stirred till they become cool enough for use. The wool is distinctly parted into rows from the head to the tail of the animal, and this mixture is rubbed carefully with the finger on the skin at the bottom of each row. A man will, at an average, save 20 in a day. When of a proper kind, used in moderation, and skilfully applied, tar is universally found to be salutary to sheep, an improvement to their wool, and easily separated from it during the process of making it into cloth. But it still remains to ascertain, what is the precise quantity which will best answer these good purposes, and whether the quantity should not vary, according to the exposure and soil of different farms, the nature of different sheep, or some particularity in their circumstances.

The period of gestation with ewes is 21 weeks; and the ram is not admitted to them till the end of November or beginning of December, that they may lamb about the 20th of April. In some of the lower and warmer farms, lambs are allowed to come a few weeks earlier; in the colder districts, they are made ten days or a fortnight later. Their preservation and health being of the greatest importance, many precautions are taken to secure both. Some wool is pulled from the udders* of the ewes to give them readier access to the teats; farmers are naturally desirous of their being brought forth, when there is a probability

But, as both the proportion of the ingredients, and the quantity put upon each sheep, vary in different parts of the county, so must also the expence, and 4 d. or $4\frac{1}{2}$ d. is thought to be nearly the average, especially as the addition of $\frac{1}{2}$ stone of butter makes an increase of $1\frac{1}{4}$ d. on each sheep.

* All sheep are *udder-locked*, as it is here called, that being thought refreshing and salutary.

bility of the weather proving mild, and of the grass being plentiful for their mothers; endeavours are constantly used to keep pregnant ewes in good condition, and to put them on the best pastures before the expected time of their lambing, as well as to continue them upon it while they give suck; and, with this view, though flocks may sometimes range promiscuously in winter, yet early in spring they are separated into different parcels (provincially *birsels*) of hogs, gimmers*, wethers, and ewes, each of which, under a distinct shepherd, is kept on a different part of the farm, lest such, as are uncumbered with lambs, should eat up the most nutritive food from the ewes and their young.

Lambs, when three or four weeks old, are attentively inspected, when a few of the most likely males, produced from shapely ewes by good tups, are selected for rams, and the rest cut for wethers. Mild and dry weather is always preferred for performing this cruel though necessary operation, the extremes of heat and cold bearing equally hard on the young animals. After being suckled from nine to thirteen weeks, according to difference of situations, seasons, and circumstances, they are weaned, and subjected to a second inspection, that the farmer may pick out the most promising to supply his stock with breeding ewes and wethers, and sell the remainder as they become ready for the shambles or the market. There are some, but very few instances of lambs being allowed to suck longer than thirteen weeks.

A considerable time before the ewes are deprived of their lambs, the other sheep on the farm are plunged, as often as is necessary, over head and ears into a deep pool, and left to

* A *gimmer* is the name given to a young ewe after being once shorn. When shorn a second time she is called an *ewe*.

to swim out of it. The ewes undergo the same operation, sometimes before, but more generally after, their lambs are taken away. This is intended to free their fleeces from the mud and sand which adheres to the falve; and they are clipped or shorn as soon as they are sufficiently dry. An expert shearer will clip 50 fleeces in a day; but 42 may rather be taken as the average. Their wool is kept in distinct parcels, that of young sheep being more valuable, and fetching a higher price when rated separately, or increasing the lumped price of the whole. At sheep-shearing *, a mark is given, or renewed, for distinguishing the different properties of neighbours, and the sex and age of sheep on the same farm.

The diseases, incident to this useful animal, may be ranked, according to their prevalence and inveteracy, in the following order, adopting the names by which they are known here, viz. sickness, louping-ill, sturdy, rot, and braxy. The three first attack chiefly young sheep, and the two last old ones.

The sickness † is a kind of inflammation and stoppage in the bowels, resembling an iliac passion, for the most part incurable, and occasioning, sometimes a speedy, and at other times a lingering death. When the carcase is opened, the flesh is always discoloured, and the urine has a fetid smell. Wether hogs are much subject to it, especially towards the close of autumn, and also, though more rarely, in spring. It is supposed to arise from different causes. It is imputed to their eating too greedily certain grasses, which spring up quickly after rain, and which produce a more violent

* The reader is referred for a poetical description of this operation to Thomson's Summer, and may be assured that it is as just as it is beautiful.

† I understand this disease is called the Braxy in many places both in England and Scotland.

violent effect on their irritable intestines, than on those of older sheep. This conjecture is confirmed by the distemper losing both its frequency and its virulence in some farms, where, during the dangerous seasons, the young and old were brought into the same pasture, and the former were prevented from devouring too much of the sweet yet noxious food, by the equal fondness shewn for it by the latter, and their superior strength to secure the largest share for themselves. This disease has also been engendered by the hard and dry food, on which sheep are constrained to subsist in the end of autumn or beginning of winter, when little else is produced on their pasture, and especially in a severe frost, descending, in an undigested state, into their bowels, and remaining there till an inflammation is excited. In this case, the obstruction might be prevented or removed, by green food of an aperient nature, or even by a little salt timeously administered. In a more advanced state, but before the disease has made too great progress, perhaps 50 or 60 drops of laudanum, in some insinuating and powerful purgative, like castor or even lintseed oil, might be of service*.

The

* After having digested and compressed the information, which I received concerning sheep, as well as I could, I was favoured by Sir John Sinclair with the following note from another publication, with a desire to insert it. To render my compliance with this request more extensively useful, I shewed the note to several sheep-farmers, conversed with them on the subject, and took down from one of them some observations, which are distinguished from the note by wanting inverted commas.

" The distemper, called the *braxy*, which in Scotland is so fatal to the
 " flocks, merits to be particularly attended to. Lambs are most subject to
 " this disorder; it in common makes its first appearance with the hoar-frosts
 " at the latter end of the year, and is most felt by those kept in cold and
 " exposed situations; when they are dead, their bladder either is burst, or is
 " found quite full of urine, and that of a very strong smell. This disorder
 " most probably, proceeds from the following cause: Sheep, when left to
 " follow their own natural habits, retire to rest early at night, nor do they
 " rise

The louping-ill affects the whole or part of the body, like a palsy, or apoplexy, stopping the circulation of the blood, and

" rise to feed till day-light. At the season of the year above mentioned, the sheep, and more especially the lambs, not liking to feed on the grass, till the sun has taken off the frost, remain longer in their layers than in common; during which time, so large a quantity of urine is collected in the bladder, that it causes a suppression, and the sheep is not able to stale. All animals breed more urine in cold frosty weather, than in mild, in consequence of their perspiring less, and of course, if in health, stale more frequently. The following may be found of use in the above disorder: Nitre pounded small 60 grains (or a teaspoon-full), liquid laudanum 20 drops, to be given in a teacup-full of water, and to be put down the throat of the lamb with a spoon.—Or two tablespoon-fulls of castor-oil with twenty drops of liquid laudanum.—Or sixty grains of nitre, with twenty drops of laudanum, in a teacup of cold water, may be found to answer; if they do not operate, and produce the desired effect in an hour, the dose must be repeated.—Or a little Hollands gin may be of service, with twenty drops of laudanum, remembering, after the medicine is given, the sheep ought to be drove about gently, and suffered to stop at times that it may have an opportunity to stale; and by being drove about gently, it will cause the medicine to operate the sooner, as no time is to be lost; they are not to be made to run, as the weight of water in the bladder would increase the inflammation; this disorder might, certainly, in a great measure, be prevented by bringing the lambs, at the end of the year, into warm inclosed grounds; and, if the owner of the lambs has not an inclosure, the shepherd ought to be amongst them very early in the morning, with his dogs, to make them quit their layers, that they may stale."

This last practice has been frequently tried, from a suspicion that the disease might proceed from the cause here assigned, but did not always prove effectual. And besides the suppression of urine, there are other kinds of this disease, or perhaps rather concomitant and inveterate symptoms of it. One of them is an inflammation between the *fell*, or lower skin, and the flesh, which soon becomes a mortification and is incurable. Another is hard, concremented, and indigested food, obstinately adhering to the intestines, which may be obviated by an injection of sweet oil, if early given. Sometimes, too, there is an inflammation in the gut, which has been cured by bleeding and moderate exercise.

Thus

and causing a total or partial suspension of motion. It is most common in bleak and cold seasons. It has the appearance,

Thus far go the note and the farmer's observations; and on them I take the liberty of remarking, in hopes of making the subject more generally understood, that it is not *lambs*, but *bogs* or young sheep from six to 18 or even 21 months old, which are most subject to this distemper; and that, from all the facts which I have been able to collect, concerning the manner of their being seized, the remedies which have been tried, and the appearance of the carcases, it is doubtful, whether the suppression of urine be a cause, or an effect of the disease. For though the urine has always a strong rank smell, and though this may arise from its being suppressed, yet it seems less probable, that the suppression should be occasioned, by the *bogs* lying a few hours longer than usual in a frosty morning, than by some predisposition in the habit to irritation, either on their eating some particular food in so great quantities, and in such a state, as not to be easily dissolved in the stomach, or on their drinking water that is noxious, or any water when they are too warm, or on their being exposed to sudden transitions from heat to cold. There are some human constitutions much more prone to inflammatory disorders than others; and why may not this likewise be the case among sheep? The farmer's account of the disease arising from indigested food is substantially the same with that given in the text; and the inflammation in the gut may be supposed to be a natural consequence of this obstruction. His cures merit attention, especially the injection of sweet oil. With respect to the cures proposed in the note, I am happy to find the author concurring in my idea of the castor oil and laudanum; but cannot approve of so large a dose of the oil and so little laudanum. A teaspoon-full, or at least 50 drops of the latter will throw the animal into a stupor for some hours, stop the progress of the inflammation, and afford time for the former to operate. The proper quantity of oil must be ascertained by experience; but I should think, as one tablespoon-full is a sufficient doze for a stout man, in any ordinary case, it may well operate on a young sheep.

The note proceeds as follows: "House-lambs, brought to the London markets, with their legs tied, are subject to a disorder like the braxy, *their bladders being full of urine*, as they will not stale with their legs tied; the butchers, after they have brought them home, give them a little clean, sweet, oat-straw, which they like to pick amongst, and with it a pail or two of clean water; when they find themselves at liberty, and have the straw under them, they most probably stale, and are well of course; but

" an

ance, in some cases, of being hereditary, pursuing the same flocks when removed to a different pasture, and, in other cases, of being attached to particular grounds, visiting all flocks which are brought upon them. These circumstances lead to a conjecture, that it might arise from strange sheep catching cold, by lying down after fatigue to rest upon wet and unhealthy ground, and communicating to their offspring the latent seeds of debility or disease, which then had deeply infected their blood. But others insist, with no small plausibility, that it is nothing else than a numbness and inability brought on by the ticks * sucking their blood, till the sheep become faint and powerless from the want of it, and allege, in confirmation of this opinion, the following undoubted facts; that neither the vermin nor the disease were known in this county half a century ago; that both made their appearance at the same period; that ticks are always found in the fields, where the louping-ill prevails, and on the bodies of every sheep that dies of it, except perhaps in

2

" an experienced butcher looks at them, after they have been in his cellar or yard an hour or two, and at night before he goes to bed; if at any of those times, he finds a lamb to be ill from the above disorder, which he knows by its hanging down its head, drooping its ears, grinding of the teeth, setting up the back, &c. he kills it, and finds the bladder ready to burst with urine; and if it has been suffered to remain long ill, the sweetbread will be found much shrunk and wasted from the pain.

" In desperate cases, the shepherd might cut the skin of the belly over the bladder, then open a small orifice in the bladder, with a knife or other instrument to let the water out, and afterwards sew up the skin of the belly, as in spaying animals, and cover it with a pitch plaster; the bladder will heal of its own accord. Whilst this operation is performing, the lamb is to be held up by the hind legs, till the water is discharged, and laid on the back till the skin is sewed up."

What follows in the note, I have omitted, as it relates to the *black-water*, a disease altogether unknown in this county.

* See an account of them below, p. 165.

a very few instances, where enough of blood was not left for maintaining them. Zink, and white vitriol, have both been tried, and sometimes succeeded in removing it, but oftener failed. A warm bath, and bleeding in the belly, have likewise effected cures, and one or other of these is thought to be the safest remedy, when applied before the disease has got too firm a seat. Its yielding to bleeding seems to overthrow the theory of its being the consequence of wanting a sufficiency of blood. But upon the supposition of its being occasioned by ticks, it may be prevented by anointing the animals infested by them with mercurial ointment, which is known to destroy every kind of vermin, and by sprinkling copiously with lime-water those parts of the pasture where they abound. It may even be worth a farmer's expence, upon a lease of moderate length, to lime fields overrun with them, and to rub with some mercurial preparation, or tie a small leathern bag with a little quicksilver in it around every suspected sheep in his flock, a few weeks before the distemper commonly becomes most prevalent. If all the sheep, thus treated, escape the louping-ill, the preventive is obvious and easy. These two are the most common and the most fatal diseases to young sheep.

The sturdy, too, or water in the head, is not unfrequent among them, and is first discovered by their appearing stupid and giddy. Experienced shepherds have a needle, which they thrust up through the nose to open a vent for the water. In other cases, when the skull is felt to be soft, they cut a piece of it, take out the small bag* which contains the water, replace the piece, and plaster it firmly over
with

* I have heard it alleged that, sometimes, there are several distinct bags or cells full of water; and I have been referred to very respectable authority for satisfaction on this point; but I have never had an opportunity of ascertaining the truth of it.

with pitch and wool. Patients have recovered by both operations, but oftener die; and there are instances of the disorder returning the following season. Some farmers, destitute neither of ingenuity nor observation, are of opinion, that the water originates in the tail, and gradually ascends along the ridge of the back to the head. But its appearing in sheep, whose tails were cut off immediately on their being lambed, and its return in several instances after being extracted, are not in favour of this theory.

The rot is properly defined, in Johnson's Dictionary, to be "a distemper among sheep which wastes their lungs." Yet unlike the consumptions, to which the human species is subjected, it is not infectious, at least much less so than other diseases among sheep. There can be little doubt of its proceeding from the same cause with the *sickness*, as it abounds chiefly in wet growing seasons, and in farms, where there are numerous oozing springs of water, or soft rich earth thrown up by mole-hills and on the sides of drains, producing a rapid growth of sweet and tender grass; a large quantity of which, swallowed hastily by young sheep, occasions an inflammation, and, eat more slowly and constantly by old ones, brings on the rot. The preventive here is obvious, and is attended to as far as it is practicable: salt and corn, given in an early stage, effect a cure; but the disease, when far advanced, admits of none.

The braxy, or perhaps rather *breckshaw*, is the name given in this county to a severe flux, which weakens and often carries off old sheep, especially ewes, and is so much dreaded as infectious, that, on its appearance among a flock, every sheep attacked by it is confined in a small inclosure, and carefully kept from drinking any thing but lime-water. Fortunately it rages chiefly at a season when there is plenty of grass; yet such is its inveteracy, that, in spite of good feeding, and astringent medicines, it generally proves fatal to a great proportion

proportion of those whom it visits. Might not ground rice or starch, with a few drops of laudanum, be tried as an injection, or the rice boiled to a jelly and a little laudanum be poured down the throat?

Sheep, too, are much infested by vermin of different kinds, the most troublesome of which are ticks, little blood-sucking animals, which pierce and tenaciously adhere to the skin, pestering their victims so incessantly, that they cannot settle at their pasture, and sometimes causing their death. Ticks are always found, with a very few exceptions, on the carcases of sheep, which have died of the *louping-ill*. But there are also instances of lambs being destroyed by ticks, without any symptoms of that disorder.

Both sheep and lambs are often lost from carelessness, or by accidents. Mothers, who are unnatural or want milk, push away their new-dropped lambs, and others are forcibly deprived of them by stronger ewes still heavy with young. In such cases, the lambs, if not immediately noticed, sometimes die, and commonly are reduced greatly by hunger before they are relieved. A cold night, too, carries off some of them, especially when newly cut for wethers. Sheep are frequently hurt by tumbling into holes, or being caught in bushes; and, if not speedily extricated, are in imminent danger of perishing. Many of them also are rendered lame, by prickles running into their feet, and, in some seasons, by an excoriation or soreness in their feet, which is contagious, and known by the name of *foot-rot*. Every kind of lameness must be a manifest disadvantage to animals, whose daily subsistence depends on the range they are able to take, and, when it rises to a great height, must emaciate and destroy them. But these losses are trifling, in comparison of those which are sustained from snow. A number of sheep, in a stormy night, are smothered by huge wreaths of prodigious

gious extent and depth, formed by eddies of the wind. Some of them have been dug out alive and well, after being entombed for many days, but, in general, they are found, either dead, or so weak as to require care, time, and the choicest pasture, to bring them again into good plight. When the ground is deeply covered with snow, there is a necessity, either of feeding sheep with hay, or of driving them from their hills to turnip-fields, sometimes at the distance of many miles. The hay is carried in trusses on horseback, and given at the rate of a stone each day to every score of sheep. A greater quantity is reckoned too high feeding, and the cause of disease and mortality, when they return to their ordinary food. A less quantity would not keep them in proper condition, either to bring up lambs, or to take on fat. This dry food, even when given with the utmost caution, is hurtful to sheep; and the fatal effects of it are more or less felt, in proportion to the length of time during which it is eat*. Farmers would gladly have recourse to turnips, if a sufficient quantity of them could be got. But as there are few fields to be purchased, and these sometimes at the high price of L. 6, and even L. 7 *per* acre, a sheep-farmer reckons himself very fortunate, if he can raise, on his own possession, or procure, even at a high price, as many as will put his breeding ewes in good order for giving milk, and is obliged to rest contented with hay for his other sheep during a lying snow, and such food as the fields afford when it goes off. The average expence of feeding a score of sheep, on hay, is 5 s. 3 d. *per* week, estimating the hay only at 9 d. *per* stone, whereas it is generally much higher, and on turnips, is 7 s. 6 d. or 4½ d. each. The continuance of snow for 4 or 5 weeks must thus cost him,

* Perhaps the noxious effects of dry food might be lessened, by sprinkling a little salt and water on it, or giving the sheep daily a little salt dissolved in water.

him, at least, a guinea for every score he possesses; besides the loss to which he is exposed from diseases and deaths after its departure. But this is really a saving on the whole, as he would suffer much more by leaving the sheep, like his fore-fathers, to glean a scanty subsistence on some dry knolls, from which they have scraped or the wind has blown the snow, or by nibbling the tops of long heath, rushes, or bent-grass.

The condition of sheep has been much improved, of late, by keeping fewer of them on the same ground which gives them more food, by draining which both meliorates and increases their pasture, by salving with better materials more skilfully proportioned and applied, and by giving breeding ewes and young sheep a few turnips, or the best feeding on the farm, during winter. By these means they grow to a larger size; they acquire a better shape, for though they may not rise much higher in the fore-quarter, they become rounder in the ribs, and broader in the back; they are stouter, healthier, fatter; and they carry heavier if not finer fleeces.

There are 5 or 6 small flocks of the Dishley breed, kept by gentlemen in rich inclosures, and by one or two farmers in the arable district. They are remarkable for the beauty of their shapes, their tendency to fatten, their thin pelts*, and their heavy fleeces. Their bones are small and neat, their backs broad and flat, and their bodies round like a barrel. Wethers, at 2 or 2½ years old, weigh, at an average, about

* Though their pelts are much thinner than those of any other large and long-wooled sheep, yet they are a good deal thicker than those of the common Cheviot, and black-faced kinds. The pelts of these last, when in good condition, are generally thought to be thinnest and to make the best leather.

about 20 lib. * the quarter, and sold at two guineas or 40 s. each for several years in the neighbourhood, and this year (1796) at 50 s. in the county. Ewes, at 3, 4, or 5 years old, weigh, according to their age, from 17 to 20 lib. * the quarter, and sell from $1\frac{1}{2}$ guinea to 2 guineas a head. Their fleeces weigh from 6 to 9 lib. English; and about $3\frac{1}{4}$ of them will, at an average, make a † stone of wool. The weight of their carcases and fleeces renders them unfit to travel far for food; but on an easy pasture, though coarse, it is astonishing how fat they will grow in a short time, and how little they eat. Rams of this breed, reared in the county, were hired, both by gentlemen and actual farmers, at the rate of from 8 to 15 guineas for the season, with a view of improving their former breeds. Ewes have been tupped in the neighbourhood at no less than 2 guineas each. Some of them, noted for breeders, have been brought from different quarters, at a vast expence. There is, at present, an appearance of their becoming more general in the lower parts of the county, and of further experiments being tried by crossing Cheviot ewes, in hilly pastures, with rams having more or less of their blood.

A few Spanish, Herefordshire, and Southdown sheep have been introduced into different parts of the county, and thrive tolerably well. I have not heard of a direct cross between the Spanish and the native breed of the county; but the issue, of a cross between the Spanish and Southdown, has been crossed again with a Cheviot ram, and the young sheep produced by this second cross, when clipped for the first time, had much heavier fleeces than their dams, or any of the

* Dutch weight, the lib. = $17\frac{1}{2}$ ounce English.

† The stone = 24 lib. English,

the real Southdown ewes on the farm. The Herefordshire, from their apparent delicacy, and the lightness of their fleeces, will not probably become favourites, notwithstanding the fineness of their wool. The Southdown, on the contrary, whose wool is little inferior, and who are lively, active, and hardy, bid fair to answer on high grounds, and to improve the wool of Cheviot sheep, without materially lessening or hurting their shapes. Yet two actual farmers *, who gave some Herefordshire and Southdown ewes the same rams with the other ewes upon their farms, can perceive little or no difference between the progeny of the Hereford and Southdown ewes, either in size of carcase, quality of wool, or weight of fleece. The wool of both in 1795 sold for 2 guineas *per* stone, while the wool of Cheviot sheep only fetched 22 s. or 23 s. And the fleeces of both were nearly equal; eight of them when salved weighing a stone, and ten of them being requisite when not salved. A ram, from this cross, promises well both as to shape and wool. A few ewes at Riddel, partly Southdown, and partly a cross between them and Spanish, gave as much wool *per* fleece in 1795 as the average of the Cheviot sheep through the county, and of a much finer quality, having fetched 36 s. *per* stone instead of 22 s. The lambs of these ewes, by a Cheviot ram, are handsomer than their dams, and carry wool nearly as fine. The following note, obligingly communicated by Sir John Buchanan Riddel, shows the comparative weight of the fleeces of different kinds of sheep and their crosses, which were clipped on his estate in 1796, and sold for 45 s. *per* stone.

	lb.	oz.	dr.
Southdown ewes 2 years old <i>per</i> fleece,	2	6	9 $\frac{1}{2}$
Southdown ewe hogs,	2	5	10
	Southdown		

* Mr Laing at Plenderleath, and Mr Redhead at Chatto.

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	lb.	oz.	dr.
Southdown crossed with Spanish,	2	0	0
Herefordshire ewes (very old),	1	12	5 $\frac{1}{2}$
Hogs got by a Cheviot ram out of the two last-mentioned lots,	2	11	7

Allowing the wool of the last to be worse than that of the others, yet it is so much heavier and finer than any wool produced by pure Cheviot sheep as to recommend a similar cross to general attention. What may be the final result of various mixtures already attempted, or of other mixtures between rams from some of the present crosses, or rams brought down from improved flocks of Hereford or Southdown sheep, and Cheviot ewes *, time must determine.

There is a species of sheep at Faldaneside, towards the north-west extremity of the county, different from all that have been mentioned. In their faces, fore-quarters, and general appearance, they seem to have some remote relation to the Dishley breed; but are larger both in bone and size, not so broad in the back, or round in the ribs, or thin in the pelt; resembling, in these defects, a species of sheep formerly very common in Berwickshire and the lower parts of Northumberland, but now scarcely to be found without some mixture of the Dishley blood. In other points, they seem to partake of the Cheviot sheep, being active and hardy; and their fleeces, both in weight and length of pile, holding a middle place between the long and short woolled sheep, weighing, at an average, about 3 lib. each †, and requiring from 5 to 5 $\frac{1}{2}$ of them to a stone. Their wool, though long, approaches nearer to the clothing than to the comb-
ing

* See Mr Culley on Live Stock, p. 137.

† Or about 72 oz. English.

ing kind, but, owing to its inconvenient length, does not bring a price equal to its fineness. Several of them are black, or rather grizzled, and yet, what is rather uncommon, their wool is not coarser than the white fleeces. Wethers weigh, on the pasture, about 17 lib. *per* quarter, and may be fed to 24 lib. One of them was sold in 1791 for L. 3, 2 s. Sterling.

The existence of such a breed, not original and distinct, but an evident mixture of short and long wooled sheep, may give birth to many speculations, concerning the advantages which may be obtained by crossing the Dishley and the Cheviot sheep, and the inconveniencies and dangers attending the attempt. Increase of the fore-quarter, enlargement of carcase, and greater weight of wool, are to be laid in balance, with the deterioration of the wool, not in quality but in usefulness and consequently in real value, with the inferiority of the pelts, and with the danger of such heavy animals, both in body and fleece, finding comfortable subsistence in cold, exposed, and steep districts, which are not, like Faldenside, fertile and sheltered by nature, and highly enriched by marl. Lambs, from Dishley rams, by following Cheviot ewes through mountainous sheep-walks, and by being afterwards constrained to take a wide range for food, may be supposed to acquire the activity and hardiness of their mothers; but whether this really will be the case, or whether the exercise, by which they attain qualities so opposite to those of their father, may not prevent their growth in the fore-quarter, as well as in size and roundness of body, must be the result of many fair and careful experiments. On this subject Mr Ure remarks *, " The general laws, respecting the economy of the animal system, seem to have a
" near

* p. 59. l. 12.

“near resemblance, in many respects, to the general laws by which the vegetable system is directed. In many situations, animals, equally with oats, &c. will infallibly degenerate, unless they are kept up by interchanges from soils, climates, and breeds, which, in many respects, differ widely from one another. This interchange, or mixture, is particularly necessary in those situations which are not natural to the animal, or species of grain, with which they are stocked or sown. By this necessity of an intermixture in the propagation of subjects belonging to the kingdoms of nature, the admirable chain of mutual dependence is, in a great measure, kept entire. The time is, perhaps, at no great distance, when mankind, by an accumulation of experiments, will become proficient in a subject, the knowledge of which is, probably, only in its infancy.”

This passage has given rise to the following anonymous annotation on the margin of one of the printed reports transmitted to me. “These observations, on mixing the breeds of sheep, seem to be founded more on theory than practice. Some old experienced graziers think, that many a good native breed of sheep has been spoiled for a particular soil and climate, by crossing with other sorts. Soil and climate will produce a breed, which may be kept from degenerating, by a proper selection of male and female to save rams from; and such a breed will, on the whole, be generally found more profitable, than any crossed or mongrel breed, which nature did not design for that particular soil and climate.”

Without presuming to obtrude an opinion on a question so curious and important, I may be allowed to state the following general facts relative to it, which come within my own observation. 1st, There are several farms in this county, where substantial and permanent improvements have been

been introduced into the breed of sheep, without any other precaution to preserve them from degenerating, than a proper selection of ewes for breeders, and of likely rams, either reared on the farms, or borrowed from neighbours. 2d, There are other farms, where the true Cheviot breed will degenerate either in wool, shape, or weight, or in all these respects, unless constant care is taken, every year, or at least every second year, to procure proper rams from flocks less apt to degenerate. 3d, In many farms, an entire change has been effected from the black-faced to the white-faced sheep, by using Cheviot rams for a succession of years. The distinguishing peculiarities of the one gave place to those of the other, in a slow and gradual manner; and in the course of four or five generations, or eight or nine years, all traces of the black face and legs, short shapes, and coarse wool, wholly disappeared. And it is the general belief, that a similar change may be brought about in the same period, in any farm whatever.

These facts shew, that very much may be done by judicious crosses, and that a good deal also, depends on soil and climate. Whether any alterations in these, produced by drains and plantations, will prove more favourable to one breed than to others, or prevent or lessen the tendency of particular breeds to degenerate in certain situations, remains yet to be ascertained. If any defect in the soil or climate makes a race of sheep to decline, it seems reasonable to suppose, that they should thrive when that defect is removed. The benefit resulting from drains* may be felt in a very few years; but a long time must elapse before trees newly planted can grow up to give shelter, and till that time shall arrive

* All the farms, where the most valuable Cheviot sheep are bred, have been very completely drained, and have a bottom of red granite. Very few farms, on any other bottom, have hitherto been as well drained.

arrive, the question, respecting the influence of climate on particular kinds of sheep, cannot receive a satisfactory solution.

A considerable quantity of butter and cheese is made of ewe-milk. Little attention is, in general, paid to the manufacture of butter, as it is seldom eat, and chiefly intended to be mixed with tar for salve. All the farmers and their shepherds have cows, the cream of whose milk plentifully supplies their families with butter. During the short season of milking ewes, a small quantity of butter may sometimes be made from a part of their milk, mixed with that of cows, and kept for different purposes of cookery. But, were it not for the difficulty and expence of procuring a sufficient quantity of this article for salving their numerous flocks, farmers would employ every drop of their ewe-milk in making cheese, which is a considerable article of sale, and much esteemed, by some for its peculiar relish, and by others as an excellent stomachic. From 5s. 6d. or 6s. it has lately arisen to 7s. and several parcels to 8s. and even to 8s. 6d. *per stone**, owing, chiefly, to the practice of milking ewes being disused in many places from a persuasion that it is hurtful, though partly, also, to the increasing demand for this commodity. Concerning the expediency of milking ewes, opinions have fluctuated, and seem not yet to be quite established. In exposed situations, where ewes cannot bring forth their lambs early, it is generally thought advisable to prolong the period of suckling them, till the season of milking is far advanced, and only to draw the teats a few days to ease the ewes. The lambs become thus fatter for the market, or flouter to supply vacancies in the flock, and the mothers are in

* Of 16 lib. trone, each lib. being near 24 oz. English, hence the stone is about 24 lib. English. In 1796, some parcels were sold for 9s.

in better order, either for being sold to a grazier, or for standing the severities of winter. In more sheltered and richer farms, where lambs may be allowed to come earlier, and are sooner weaned, it may nevertheless be more profitable to abstain from milking their mothers, that both may fatten more speedily and bring a higher price. Much certainly depends on local situation, and accidental circumstances. And farmers must be left to judge for themselves, either according to their own experience, or the more successful practice of others. It is pretty generally admitted, that ewes may be as much weakened by their lambs sucking a long while, as by being milked; and that there is a certain period when lambs should be weaned, without any disadvantage to themselves, and greatly to the relief of their mothers; but that this period may be shorter or longer, in different farms, and should be regulated by the state of the ewes, the lambs, and the pasture. It is also allowed, that ewes are rather eased, than hurt, by being milked for a short while after the lambs are weaned, but that the length of time should be determined by their condition, their age, the nature of the pasture, and the degree of convenience with which they can be gathered into the folds. Young ewes, generally, are only milked for a few days; and are seldom if ever milked so long as those who are older.

In those places, where this practice is still continued, seven or eight weeks are the common period of its duration. A pint* of milk, at an average, is given by a score of ewes, and about 36 pints will make a cheese weighing a stone. But some cow-milk is generally mixed with it, the proportion varying according to the number of ewes and cows on different farms; so that some cheeses are made almost

* Somewhat less than a English quarts wine measure.

almost wholly of ewe-milk, and others have as large a share of cow-milk as 22 to 40 pints. The latter not being nearly so rich as the former, when a third, or even a fourth, part of it enters into the composition, 40 or 42 pints will be requisite for the stone of cheese. Hence it may be calculated, that, from a flock consisting of 50 score of ewes, whereof about 36 score are milked every evening and morning at the rate of 36 pints each time, with the addition of a fourth part of cow-milk, a cheese should be made every day, weighing somewhat more than two stone, and that, where a larger number either of ewes or cows, are kept, cheeses may frequently exceed 3 stone, or two cheeses may be made daily of a less size. Hence too, the cheeses made on a moderate-sized farm, whose flock of ewes amounts nearly to the number specified, may be reckoned at 120 stone in eight weeks, which, at 8 s. *per* stone, is L. 48 Sterling. It is not unusual for farmers to let the milking of their ewes, formerly for a penny each *per* week, or 8 d. for the season of eight weeks, and now for 1½ d. *per* week, or 1 s. for the season. At this highest rate, the milking of 36 score of ewes is precisely as many pounds. And the farmer just loses L. 12 Sterling for the sake of being freed from the trouble of hiring, maintaining, and managing ewe-milkers, furnishing and keeping in order a number of utensils, and conducting the whole process of making the cheese.

This operation merits a description *. The milk is gently heated, and coagulated with a rennet. The curds are broken, by stirring them with the hand or a stick, and then compressed by a coarse cloth, which bears them down, but affords an easy passage for the whey to rise and float on the top,

* This account is chiefly abridged from Mr Ure, with a few necessary alterations and additions.

top, whence it is skimmed off by a large flat dish made for the purpose. When no more can be obtained in this manner, the curds are put into a canvas bag very coarse and stout, and placed on a strong barrow, with three or four spokes about two inches broad and about three inches from each other. The barrow is set over a tub to receive any whey that may come from the curds. Across them is laid a heavy and long deal or plank, on each end of which a woman sits, alternately pressing it down, and being herself lifted up with it. The jolt and violence of this motion squeezes out all the remaining whey, which is generally white and thick. The curds are then tumbled out of the bag into a dry tub, broken into very small particles, and salted. They are sometimes subjected, a second time, to be squeezed as already described, to force away any drops of whey, which might have adhered to the lumpy curds, but which must easily filter through them after being carefully broken. In this case, they are again separated, and wrought by the hand, and get a little more salt if it is thought necessary. After all these operations, they are thrust into the cheese vat, and put under the press for 24 hours, during which time they acquire the form of a cheese, and it is changed as often, and receives more or less pressure, as is thought necessary. The presses are commonly moved by a screw, and are made, sometimes of wood, and sometimes of stone. They are also constructed on the principles of the lever, admitting weights to be applied at the extremity or at any intermediate distance, and the cheese-vat to be placed nearer or farther from the weight, according to the degree of pressure required. After coming from the press, the cheeses are laid on a floor, where there is a free circulation of air to dry and harden them slowly, and they are regularly turned, at first once if not twice every day, afterwards

once every second or third day, and latterly perhaps every week or ten days, till the end of September or beginning of October, when they are weighed and delivered to the purchaser.

The whey, first taken off, is given warm for consumptive complaints, and violent coughs; or, mixed with milk and oatmeal, is heated in a kettle, but not allowed to boil, and stirred till it acquires a top like a posset, which is skimmed off and eaten by servants, and the thin beneath it is carried out to swine. What is forced out by the subsequent operations, when thin, is poured into the kettle, but, when thick and rich, is kept over night, and throws up a kind of butter, very useful for combing wool, or mingling with tar for salve.

SECT. III.—*Horses.*

THERE are many different kinds of horses in this county, though none are peculiar to it. For draught, a breed, with a considerable mixture of *blood*, for which Northumberland is justly famous, was much esteemed some years ago. Their mettle and speed are admirably adapted for post-chaises, but they want strength to bring heavy carriages from a distance through a hilly country. The Lanarkshire horses, able for any weight, cannot stand long journies. But their stallions produce excellent foals from Northumberland mares, uniting the strength of the father with the spirit of the dam. The issue of this cross are fast rising into esteem. There are also several Irish horses both strong and active, but they are mostly geldings or mares. An handsome stallion from that kingdom, covering the progeny of a cross
between

between the Lanarkshire and Northumberland breeds, would probably produce the very best kind of draught horses for this unequal and inland district, where compactness, bone, and mettle, are equally requisite. Ponies, from the north of Scotland, are very common in most families for children, and make useful drudges. A cross between them and blood horses often possesses the hardiness of the one and speed of the other. Some of them, too, are very handsome, and well fitted to carry ladies, or gentlemen of a middling size. They are indefatigable travellers, and by no means nice with respect to food. A species of lesser draught horses, stout, compact, and active, is much used by small tenants, cadgers, &c. and very proper for going long journies, with moderate loads. Some of them come from Fife, others from Galloway, and are here crossed with other breeds. Most of the gentlemen, and some farmers, keep horses of full blood for their own riding or for hunting, but none for the turf. It is a question not easily solved, whether a greater number of horses is bred or brought into the county. Formerly the importation from other counties was more considerable than it has been of late; and, if the passion for raising foals continues to increase, the county in a few years may supply itself with horses.

Their number, in the districts of Jedburgh, Hawick and Melrose, in the year 1789, under the operation of the old law respecting statute-labour, was 2994. The number, at that time in the Kelso district, cannot be ascertained from any authentic documents; but the twelve parishes, of which it consists, being mostly situated in the populous and arable part of the county, could not contain fewer than 1350 horses, or from 110 to 112 at an average for each parish, making the total number in the county then 4344.

The

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The surveyor has kindly furnished the following note and remarks, most distinctly shewing their exact number in 1796 :

LIST of HORSES in the County of ROXBURGH.

PARISHES.	Carriage & Saddle Horses	Work ditto.	Young ditto.	Total.
1. Ashkirk, part of, -	13	51	34	98
2. Ancrum, - - -	26	163	36	225
3. Bowden, - - -	11	137	47	195
4. Bedrule, - - -	6	37	9	52
5. Cavers, - - -	32	189	44	265
6. Castletown, - - -	26	134	63	223
7. Crailing, - - -	19	98	30	147
8. Ednam, - - -	15	91	10	116
9. Eckford, - - -	12	138	28	178
10. Hawick, - - -	39	210	23	272
11. Hobkirk, - - -	18	111	26	155
12. Hownam, - - -	14	44	18	76
13. Galashiels, part of, -	4	26	7	37
14. Country part of Jedburgh,	29	216	32	277
15. Kirktown, - - -	10	45	16	71
16. Kelso, - - -	55	162	13	230
17. Lilliesleaf, - - -	20	121	29	170
18. Lessfudden, or St Boswells,	8	64	9	81
19. Linton, - - -	10	59	2	71
20. Morebattle, - - -	15	119	13	147
21. Makerstown, - - -	11	53	14	78
22. Minto, - - -	9	65	20	94
23. Maxton, - - -	6	60	13	79
24. Melrose, - - -	27	284	31	342
25. Oxnam, - - -	17	105	17	139
26. Roberton, part of, - -	11	57	14	82
27. Roxburgh, - - -	14	115	21	150
28. Sproufton, - - -	13	158	28	199
29. Smailholm, - - -	11	69	17	97
Carried forward,	501	3181	662	4344

OF ROXBURGHSHIRE.

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PARISHES.	Carriage & Saddle Horses.	Work ditto.	Young ditto.	Total.
Brought forward,	501	3181	662	4344
30. Stitchill, - - -	14	53	20	87
31. Southdean, - - -	13	89	19	121
32. Selkirk, part of, - - -	3	32	4	39
33. Wilton, - - -	19	140	19	178
34. Yetholm, - - -	9	106	2	117
Total county, -	559	3601	726	4886
Burgh of Jedburgh,	27	83	0	110
Total county and burgh,	586	3684	726	4996 *

R E M A R K S.

" *The preceding List being furnished by the Surveyor of Taxes, it becomes necessary to observe,*

" *That though the number of horses may be reckoned pretty accurate, yet it must not be supposed that there are 586 employed solely as carriage and saddle horses, as by far the greatest part of that number is made up of horses belonging to tenants occupying farms at L. 70, or upwards of yearly rent, which subjects them to the riding-horse tax, though they only ride one of their work-horses.—In the number of young horses are included all work-horses below 13 hands high, and perhaps some of the young horses may have barrowed a little in seed-time.—The number of work-horses employed in carrying on, and managing the husbandry in each parish, is very exact; but in each parish*

* When from this number, are deducted the 726 young horses, it would appear, that the late taxes have occasioned a small decrease since the year 1789.

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*"risb are also included the horses belonging to carters or
"jobbers and cadgers."*

SECT. IV.—Hogs.

THE number of swine cannot be calculated with any degree of exactness, as it varies very considerably at different seasons. Some time ago, about 600 * were killed at Kelfo every year; and perhaps twice as many in the rest of the county; but of late they have rather decreased. They are kept chiefly by millers, brewers, and farmers, and fed on dust, grains, whey, and the refuse of potatoes, and corn. Servants, also, who have houses of their own, villagers, cottagers, and tradesmen, frequently have one, to glean offals from the roads, streets, and gardens, to lick the dishes, to consume such potatoes as are too small for the table, and, at last, to be fattened by corn, or meal soaked in warm water. But they are found to do so much damage to grass-fields and thorn-hedges, and to be so expensive in times of scarcity, that they are now much given up. They are generally of a middle size, become fat at every age from six to fourteen months, and weigh from 8 to 20 stone †. Few are under or exceed this size and weight; but several, formerly were, and some still are, much larger. Neither pork nor bacon is much used by the common people, though they are not restrained by any superstitious aversion. Hence, probably, more swine are fattened than consumed in the county. The overplus finds ready purchasers in the merchants of Berwick, who cure pork for the London market.

SECT. V.—Rabbits.

THERE are no rabbit warrens in the county; and, though they burrow in several places, their numbers are not so great
as

* Stat. Acct. Vol. X. p. 590.

† Each stone equal $17\frac{1}{2}$ lib, English.

as to make them objects of attention, either to the proprietors in the view of profit, or to the farmers as a nuisance. A few of them are sometimes taken and kept tame by way of amusement, but they fetch too trifling a price to be hunted by poachers for gain.

SECT. VI. — *Poultry.*

THOUGH very few farmers rear poultry of any kind for sale, yet there are many of them in the county, especially hens, which in most leases make a part of the rent, under the name of *kain*, and are generally kept for convenience or profit. A chicken in summer, and a fat hen in winter, is always a good dish at command for an unexpected visitor. Those, which are not needed in this way, are sold in the neighbouring markets, chickens from 4 d. to 6 d. and hens from 9 d. to 1 s. Their eggs, also, are both exceedingly useful for domestic purposes, and form a considerable article of gain. A hen, who lays every day, only three months in the year, and whose eggs sell only at 4 d. *per doz.* yields 2 s. 6 d. yearly. And when people, in Hawick alone *, carry eggs, to the value of L. 50 at an average every week through the year, to Berwick, carriers in the whole county may reasonably be supposed to draw at least four times that sum, after every allowance for eggs collected and brought from neighbouring counties. That farmers, notwithstanding these profitable considerations, should not be fond of hens, may easily be accounted for, from the sad havock which they make in land newly sown, and among corn, both while ripening, and after being stacked. But they are naturally great favourites with housewives, on account of their flesh, eggs, and feathers, and likewise

* Stat. Acct. Vol. VIII. p. 530.

likewise with such villagers, and cottagers, as have no crops to be injured by them.

Ducks are not nearly so numerous, though they lay an immense quantity of eggs, are easily reared, and are reckoned agreeable food; but they cannot be used in such various ways as dunghill-fowls, and many people have a prejudice against their eggs.

Geese and turkeys are reared by gentlemen for their tables, and by some farmers for sale; but not in such considerable numbers, as to exceed greatly what are consumed in the county. Their average prices are, a goose, about 2 s. 6 d. a turkey, 3 s. 6 d. a duckling, 7 d. or 8 d. and a duck, from 10 d. to 1 s. 2 d.

SECT. VII.—*Pigeons.*

THERE are many pigeon-houses, but very few pigeons can be purchased. The prices are from 1 s. 6 d. to 2 s. 6 d. the dozen.

SECT. VIII.—*Bees.*

It is impossible to ascertain, with the least pretension to accuracy, either the number of breeding hives intended to be preserved through winter, or their actual produce in the following summer. Many are destroyed by inclement weather; some perish through neglect; few or none can thrive in a bleak and cold season. Every thing depends on their getting favourable opportunities of collecting their winter's store,

store. Yet they have been the source of comfortable subsistence to several, and of wealth to one or two individuals, who, by observation and experience, have acquired uncommon skill in their management. The price of honey, at an average, may be stated at 6 s. the Scotch pint, and of honey-comb at 1 s. *per* lib. More is annually made than used in the county.

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CHAP.

C H A P. XIV.

RURAL ECONOMY.

SECT. I.—*Labour, Servants, Labourers, and Hours of Labour.*

THE nature and prices of several different kinds of labour have already been incidentally stated, under those articles, in the preceding chapters, to which they respectively belong; and, for the conveniency and satisfaction of the reader, the substance of these scattered particulars shall be here collected together, and such information added, concerning other particulars, as I have been able to obtain.

Much less work is done by the piece than might be expected from the advanced state of agriculture. It was only introduced

introduced a few years ago, and is slowly becoming more general.

On ground that is easily wrought, ditches are dug, five feet broad by three feet deep, at 8 d. or 10 d., and three feet broad by two feet deep, for 4 d. 5 d. or 6 d., and thorns are planted, but not furnished. Drains, four feet wide at top, three feet or two and a half feet at bottom, and three and a half feet deep, cost from 8 d. to 1 s. When twenty-six or thirty inches wide at top and the same in depth, they are from 4 d. to 7 d. Those, two feet wide, and only one foot eight inches deep, are sometimes as low as 2 d., and generally about 2½ d. or 3 d. Open drains on sheep-walks, about sixteen or twenty inches broad and twelve or fourteen deep, cost about 1 d. and often not so much. But, on hard and stony land, the above prices are about one-third more: And they all refer to the rood of six English yards, the only measure by which such works are done here. The proprietors or tenants always fill up and cover drains, with their own servants, horses and carts.

Hay has been cut from 1 s. 8 d. to 3 s. 6 d. *per* acre. About 2 s. 2 d. or 2 s. 3 d. is thought to be the average. Very little corn has been cut by the piece. From 5 s. 6 d. to 6 s. 6 d. has been given for reaping an acre, binding the sheaves, and setting them up in shocks. There is an instance or two of its having been cut with a scythe at 2 s. 6 d. *per* acre, and the expence of gathering, tying it, &c. is computed at 2 s. 6 d. or 3 s. more. It was commonly thrashed, in the lower parts of the county where there is a good deal of wheat, for the twenty-fifth part of the produce, and, in the higher parts where there is little wheat, for the twenty-first part. Thrashers frequently get 4 d. or 5 d.

5 d. *per* boll and their meat, and from 8 d. to 1 s. without meat, according to the price of provisions, the quality of the grain, and local situation.

There is no regulation for the carriage of goods, either by measurement, or weight. Much also depends on their nature, and the distance they are carried. Timber is charged at the rate nearly of 1 d. the cubic-foot for every seven miles. A cart-load of coal, lime, and marl generally costs about 4½ d. *per* mile, when drawn by two horses, and about 3 d. when drawn by one; but a specific bargain being for the most part made for a certain number of cart-loads, at a stipulated price, which often includes the prime cost, the rate of carriage *per* mile may of course vary. Merchant-goods are carried at the rate of 1 d. *per* stone English for every nine miles; but more is demanded for brittle wares, and parcels that are easily damaged. Wool being a bulky commodity, about six packs are laid upon a two-horse cart, and about 6 d. *per* mile is generally paid for carrying them.

It was formerly the practice for smiths to work the iron of others wholly by the piece, receiving a stated allowance yearly in corn, meal, and fuel, according to the number of horses, carts and ploughs, belonging to the different farmers who employed them, and money for all extra jobs. But of late it is becoming more common for their employers, still furnishing iron, to pay them 1½ d. or 2 d. for making and 1 d. or 1½ d. for removing a horse-shoe, from 2 d. to 3 d. *per* lib. for making the iron-work of a plough, from 4 d. to 8 d. for repairing and 2 d. for sharpening a coulter and sock, from 5 s. to 10 s. for putting an iron-ring around the wheels of a cart according to its weight, and 2½ d. or 3 d. *per* lib. English for all the necessary appendages.

When

When stones are laid down, masons build stone-walls, without cement, four and a half feet high, for 1 s. 6 d. and lately for 1 s. 10 d. the rood of six yards; and, when cement is furnished and prepared, they get from 30 s. to 36 s. for the rood of 36 by 1 yards, according to the height of the wall or house. For the same rood, slaters receive from 16 s. to 20 s. when slates are brought to the spot. No other kind of work is done by the piece.

The wages of masons are from 1 s. 8 d. to 2 s.; of wrights*, from 1 s. 4 d. to 1 s. 8 d.; with a deduction, formerly of 4 d. or 5 d. and lately of 6 d. or 7 d., when they get meat. Labourers, from the 12th November to the 12th February, receive 8 d. or 9 d. and their maintenance, and from 1 s. to 1 s. 2 d. without it. Through the rest of the year, they get 10 d. and some of them 1 s. and their meat, and 1 s. 2 d. or 1 s. 4 d. without it. In hay and corn harvest, their wages are still higher.

Men-servants, when maintained in the house, receive from L. 8 to L. 10 yearly of wages. About L. 9 or 9 guineas is thought to be the average. Women receive about L. 4. Their maintenance is estimated at 6 d. per day in these dear times. When farm-servants have families and houses of their own, their various emoluments amount to L. 18 or L. 20. The following is the most simple statement of their annual income :

Wage,	L. 9 0 0
A cow, maintained summer and winter,	3 10 0
Carried forward,	L. 12 10 0

* *Wright* in Scotland is the general name of all those who work in timber. The particular branch, which they pursue, is often prefixed to this name, as *mill-wright*, *ship-wright*, *wheel-wright*, *house-wright*, *cart-wright*, *plough-wright*, &c. Even coachmakers are sometimes called *coach-wrights*. Nothing is prefixed to it when it signifies a joiner.

Brought forward,	L. 12 10 0
Weekly allowance for meat, 1 s. 6 d.,	3 18 0
House-rent,	1 0 0
Two carts of coals,	1 4 0
	L. 18 12 0

Though this is the sum that goes out of the master's pocket, yet the profit of the cow will bring more into that of the servant. Nothing is reckoned on his meat during harvest, which the master furnishes, nor on a crop of potatoes or lint on a spot manured with his dung, (though from these his family derives considerable advantage), because he generally provides a reaper either for these privileges or for his house. Many married servants receive meal, and other perquisites, but their weekly allowance is withdrawn, and their wages are proportionally less.

The wages of shepherds are still higher, owing to their being allowed to keep a few sheep along with those of their master. This practice is more profitable to them, and interests them more in the safety and welfare of the flock. Their earnings, thus arising from a complication of sources, cannot be easily calculated, but were generally supposed some years ago to be L. 18, and cannot this year (1796) be below L. 20.

There is a general complaint, through the whole county, of labourers being scarce. Thrashers, especially, cannot be found, though fewer of them are now needed since the introduction of machines. When a servant saves a few pounds, he is ambitious of possessing a horse and a small tenement, that he may turn cadger, and will undertake no work except where his horse is employed. Hence labourers are not numerous, and consist chiefly of those, who have failed in other employments, or have thrown them up for want of health;

health; which accounts, in part, for their unwillingness to work by the piece, and their preference of days wages. There are, however, a few clever fellows, who handle a pick and a shovel with great dexterity; and strangers, sometimes, sojourn for a while, and perform piece-work. Better accommodation in point of houses and fuel may induce good labourers to settle here. There is no fear of their getting plenty of employment.

The hours of labour are, from six o'clock in the morning till six in the evening, while there is day-light, and, in winter, from the dawn of morning till the twilight, with an allowance of an hour to rest at breakfast, and another at dinner. Servants rise earlier and work later when occasion requires, but, in general, do not work, at an average through the year, above 10 or 11 hours a-day.

The houses, both of cottagers * and shepherds, have been already described. They live chiefly on bread, oatmeal, potatoes, milk, cheese, eggs, herrings and salted meat. Their bread is made of barley and peas ground into meal, kneaded into bannocks, and toasted on a thin plate of iron, suspended over a moderate fire. They also use oat-cakes made much in the same manner, but thinner. Wheaten bread, ale, and whisky are accounted dainties, and only presented on great occasions; such as baptisms and marriages. House-servants fare better. Their breakfast is a mess of oatmeal-porridge (or hasty pudding) and milk. Their dinner is, broth and boiled meat warm, twice every week, and, the other days in the week, either broth heated again or milk, with cold meat, eggs, cheese, or butter, and as much bread of mixed barley and peas-meal as they choose. Their supper is, either the same as their breakfast, or, often during winter, boiled potatoes mashed with a little butter and milk. The time of their meals varies according to the

* Chapter III. Sect. 3.

the season, and their work. In winter, they breakfast before day, that they may be ready to begin their work as soon as there is light, and do not dine till the twilight; but they get a luncheon, and their horses a little corn, about mid-day. During the rest of the year, they work four and a half or five hours before breakfast, rest or do any job in the middle of the day, dine about one o'clock, and work again four and a half or five hours in the evening.

SECT. II.—*Provisions.*

BUTCHER meat of every kind may be purchased weekly, at a moderate rate, in the markets of Kelso, Jedburgh, and Hawick. The first holds a just pre-eminence over all the markets in the south of Scotland, and north of England also, Morpeth alone excepted. It is famed for beef and veal; and for pork it is unrivalled. The mutton and veal of Jedburgh are fully equal in excellence, but not in quantity, and its beef is not much inferior. Hawick, too, is well supplied with good beef and mutton, but here, and through the rest of the county, there is little veal or pork. Lamb every where abounds, in its season, of an admirable quality. There are regular butcher-markets, also, in Melrose, Yetholm, and Newcastle-toun in Liddesdale; and several families on the confines of the county get meat from the neighbouring markets of Lauder, Selkirk, and Langholm; but Kelso and Jedburgh send more to Berwickshire, Northumberland, and even to Mid-Lothian, than is brought into the county. A great number of salmon and of salt-water fish is sold, in the proper season, in different markets, especially at Kelso. Their prices vary, but are seldom exorbitant. There are breweries at Kelso, Ednam, Jedburgh,

Burgh, Hawick, and Melrose, which supply the county and neighbourhood with excellent small and strong beer. Scotch porter is made at Kelso and Ednam, a stout, cheap, and wholesome beverage, though very unlike what comes from London. There are bakers in all these places, and likewise in many villages. And, besides what they make, a good deal of bread comes weekly from other counties. Before the late high prices, the average rate of butcher-meat and poultry through the year might be nearly as follows :

* Beef,	-	3½ d. or 4 d.	Turkeys, each,	3 s. 6 d.
Mutton,	-	3 d. or 3½ d.	Geese,	- 2 s. 6 d.
Pork,	-	3 d. or 4 d.	Ducks,	- 1 s. 0 d.
Veal,	-	3½ d. or 4 d.	Hens,	- 0 s. 9 d.
Lamb,	-	3 d. or 3½ d.	Chickens,	- 0 s. 4½ d.
		all per lib.	Pigeons, per doz.	
			from 1 s. 6 d. to 2 s. 0 d.	

The average prices were, of butter when fresh, 9 d. and when salted, 10 d. per lib †, of ewe-cheese, 7 s. or 7 s. 6 d. and of cow, 4 s. 6 d. or 5 s. per stone †. All these articles are higher at present; and milk is sold, in all the villages, at the low rate of 1 d. the Scotch pint as it comes from the cow, and for the half of that price when the cream is taken from it. Few pot-herbs are sold, as most families have gardens. Potatoes, some time ago, were at an average about 9 d. or 10 d. the firlo, except at seed-time when they rose to 1 s. 4 d. or 1 s. 6 d.

A very large quantity of grain is exported from this county, as it comes from the winnowing machine. Much,

B b

too,

* Butcher-meat is sold by the Dutch pound, which is seventeen and a half English ounces.

† The pound of butter and cheese is equal to 24 English ounces, and the stone is equal to 24 English pounds.

too, is sold to be manufactured in the neighbourhood, and some brought from the neighbouring counties to be manufactured here, and carried, in meal or pot-barley, to the hilly parts of Northumberland, Dumfries, and Selkirkshire, to Peebles, and to Mid-Lothian. There is no way, therefore, of calculating the quantity actually consumed in the county, except by allowing $\frac{1}{2}$ stone *per* week to every soul in the population, and supposing the adults to make up the deficiencies of infants. On this principle, the population being 32,103,—the weekly consumpt will be 16,051 $\frac{1}{2}$ stone, and the annual 834,678 stone, including grain of every kind. By a moderate computation, every working horse will require twelve bolls of oats yearly. Allotting only one half of that quantity to all other horses, including young horses, carriage and saddle horses, and ponies, but not foals, the number of working-horses being 3684,—they will consume 44,208 bolls yearly, and that of other horses being 1312,—they will consume 7872 bolls yearly, in all 52,080 bolls.

The following is a Table of the Fairs *, and of the monthly returns sent to Government of the average prices of grains :

* The *fairs* are the county average prices of the different grains, fixed twice every year, a few weeks after Candlemas and Lammas, and properly refer to the six months immediately preceding these terms; so that the fairs for Candlemas 1792 nearly correspond to the monthly returns for the end of 1791; those for Lammas 1792 to the returns for the first six months of that year, and so on. But in the subjoined table, the Candlemas fairs are placed opposite to the monthly returns of the first six months, and those for Lammas to the last six months of every year.

A TABLE, of the average Prices of Grain returned monthly to Government since September 1791, and of the County Fairs since Lammas 1791. Opposite to the Returns for the last 4 Months of the 1791, are the Fairs for Lammas 1791. Opposite to the Returns for the first 6 Months of every succeeding Year are the Fairs fixed at Candlemas that year; and opposite to those for the last 6 Months are the Fairs fixed at Lammas.

MONTHLY RETURNS.												F A I R S.																											
Wheat.				Peas.				Barley.				Oats.				Oatmeal.				Wheat.				Peas.				Barley.				Oats.				Oatmeal.			
L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.							
1791, last 4 ms.	1	5	1	1	1	0	11	1	0	11	1	0	15	10	1	8	2	1	6	1	5	1	2	6	18	6	1	9	0	0	0	0							
1792, 1st 6 ms.	1	4	3	0	15	10	1	0	6	0	14	6	1	5	2	2	1	4	0	18	0	1	0	0	15	0	1	5	0	0	0								
— 2d 6 ms.	1	4	3	0	17	10	1	0	2	0	15	8	1	1	6	4	1	3	4	16	8	1	0	0	16	8	1	5	0	0	0								
1793, 1st 6 ms.	1	6	2	1	4	4	1	4	11	1	0	17	4	1	10	4	1	1	5	0	0	1	6	1	1	1	1	6	0	0	0								
— 2d 6 ms.	1	8	10	1	4	4	1	5	5	1	0	5	1	13	4	1	1	16	0	18	6	1	1	6	1	1	10	0	0	0	0								
1794, 1st 6 ms.	1	8	11	0	19	4	1	2	7	1	0	5	1	11	4	1	1	5	10	18	6	1	1	1	1	1	10	0	0	0	0								
— 2d 6 ms.	1	9	4	1	1	1	1	1	11	0	18	5	1	10	10	0	1	10	0	1	4	0	1	1	1	1	10	0	0	0	0								
1795, 1st 6 ms.	1	14	4	1	3	2	1	5	3	0	17	9	1	9	9	1	1	8	8	1	2	0	1	2	16	6	1	8	0	0	0								
— 2d 6 ms.	1	15	0	1	8	1	1	10	1	1	12	11	1	14	11	1	1	10	0	1	5	0	1	11	1	2	1	13	0	0	0								
1796, 1st 6 ms.	1	16	2	1	8	5	1	11	8	1	4	6	2	0	9	0	1	10	0	1	7	6	1	8	1	2	1	16	0	0	0								
— 2d 6 ms.	1	17	3	1	4	2	1	7	6	1	1	0	1	14	2	1	1	14	0	6	3	1	12	0	1	4	1	19	0	0	0								

N. B. These prices all refer to the county bolls: That for wheat and peas containing 5 firloths of 2274, 888 cubic-inches each, and = 5 bushels 1 peck 2 pints and a fraction English standard measure; and that for oats and barley, containing also 5 firloths of 33 pints or 3412, 332 cubic-inches each, and = 7 bushels 3 pecks 11 pints 26.3 cubic-inches English standard measure.
The boll of barnmeal is 16 Dutch or Scotch troy stones.

SECT. III.—*Fuel.*

COALS, peats, turf, and wood are all used for fuel. Coals are brought from the north-east of Northumberland to the lower parts of this county, in two-horse carts, containing from twelve to fourteen bolls each, the boll being about a firlof barley measure, and costing at the pit 2d or $2\frac{1}{4}$ d. To the neighbourhood of Jedburgh, small coals, the same which abound around Newcastle, are carried both in carts and on horseback from the north-west of Northumberland. A cart drawn by two horses, containing six loads or twelve bolls, costs at the pit $4\frac{1}{2}$ d. or 5 d. *per* load; and three narrow bags, measuring $2\frac{1}{2}$ firlofs at the pit, form the horse-load, and sell at Jedburgh for 2 s. 2 d. after being brought by the border coal-drivers about twenty miles. The southern extremity of Liddesdale has coal of the same kind within itself, which is sold at 3 d. *per* bushel, or 6 d. the load. The bushel there is equal to 3 Winchester ones. Similar coals, sold by the same measure in Dumfries-shire, are carried to the neighbourhood of Hawick, generally in two-horse carts, which hold six bushels * each. Coals also come as far as that village from Mid-Lothian, at the vast distance of thirty-six miles; and all the north-west parts of the county are supplied from the same quarter. They are there sold by weight, and cost at present $3\frac{1}{2}$ d. *per* cwt. Peats are chiefly dug towards the centre and north-west parts of the county; but the labour and risk of making and bringing them home render them as dear as coals: And, in proportion as good access is opened to the latter, the former will be less used. Turfs, too, are found to impoverish the ground so much, that they, likewise, are fast giving place to coals. And wood is wholly local, although in 20 or 30 years hence, when

* They are of late sold chiefly by the waggon-load for 1 s. 6 d. at the pit. The waggon is 16 cubic-feet, and one and a half waggons fill one of the largest double carts.

when the numerous plantations, now going forward, shall stand in need of being weeded and pruned, fires of this fuel will become more general. At present coals are the most prevalent, and, on the whole, the cheapest fuel; though they cannot be purchased any where in the county below 9 d. the cwt., and in several places cost 1 s. 3 d., nor can 1 s. or 1 s. 1 d. be reckoned an improper average.

CHAR.

C H A P. XV.

POLITICAL ECONOMY, AS CONNECTED
WITH, OR AFFECTING AGRICULTURE.

SECT. I.—Roads.

BEFORE the 1764, this county was in a miserable situation with respect to roads and bridges. There were few places, where wheel-carriages could safely pass, without skilful drivers and close attention; and there were only two bridges over Tweed* and other two over Teviot† of any real utility, all the rest being either awkwardly placed, or incommodiously constructed. In that year, an act of Parliament was obtained, for making part of the great road from Edinburgh to Carlisle, by Selkirk, Hawick and Langholm, which runs through the west of Roxburghshire.

It

* At Kelso and Melrose.

† At Hawick and near Ancrum.

It was succeeded, in 1766, by another act, for making a road, from the confines of the county towards Lauder, by Kelso, to the Marchburn, which divides it from Northumberland *. A third act passed, in 1768, for a road, from the same confines near Lauder, by Jedburgh, to the Redswire †, or summit of the Carter, on the north-west border of Northumberland, and for another, from Maxwellheugh near Kelso, to Hawick. Each of these acts has been renewed; and a fourth one was procured in 1793; in virtue of all which, the following branches, or additional roads, have since been made, viz. one from Kelso to St Boswell's Green ‡, where it falls in with the road from Jedburgh to Lauder; one from Kelso, north of Tweed, to the confines of the county towards Coldstream by Highridgehall, where it is joined by a cross-road made from Newton-mill; one from Kelso, south of Tweed, towards Cornhill, to Carham-burn; one from Kelso, towards Eccles and Dunse, by Ednam; one from Hawick, to join the road from Jedburgh to Redswire near the Carter toll-bar; one from Jedburgh towards Abbotrule and different places on Rule-water; one from Jedburgh to join the road from Kelso to Hawick at Spittal; and another to join it at Jedfoot-bridge; one striking off, near Newton toll-bar, from the road between Jedburgh and Lauder, through Melrose, to the bridge over the

* This road joins, near Wooler, the one by Greenlaw and Coldstream-bridge.

† From this point, a road is now made to Newcastle by Elfdon and Cambo, and another to West Auckland by Corbridge near Hexham. From West Auckland, there is a good road, by Pearce-bridge and Catterick through Leeminglane to Boroughbridge.

‡ In a direct line from Kelso towards Selkirk, to which latter place it should be carried forward.

the Gala close by Galashiels; and a small part of the road from Kelso to Peebles, north of Tweed, from the bridge over Leeder-water to the end of Melrose-bridge, where it joins the road last mentioned. These various roads contain 153 miles. Besides lesser bridges, thrown across rivulets, and hollows which are only occasionally filled with water, no fewer than twenty-four * stone ones have been built, since the 1764, over the more considerable streams and rivers, including a beautiful one over Teviot, near its junction with Tweed, recently finished, and that very substantial and elegant one over Tweed at Drygrange, whose middle arch has a span of 105 feet. Two of the former ones have also been rebuilt. Exclusive of the contributions of individuals, which on different occasions have been very liberal, the expence of making these roads and bridges, and of erecting toll-houses and bars, amounts to L. 46,813 Sterling. The average annual expence of reparation and management is L. 1709 Sterling, including the reparation of the bridge over Tweed at Kelso, though built prior to the turnpike-acts, but not including the reparation of the branch to Carham-burn, which is scarcely completed. The real produce of the newly-erected toll-bars, except those on this last mentioned branch, and the average produce, for the last ten years, of those erected some time ago, being, in whole, 26 bars and 2 pontages, amount only to L. 1793 Sterling; so that the gentlemen concerned draw only the small surplus of L. 84 Sterling yearly for all the money they have sunk. Yet most of them are amply repaid, in another respect, by the great increase of their rents; and, without any pretensions to a prophetic spirit, it may be predicted that these will

* Among these is not reckoned one built over the Ale by Sir John Buchanan Riddel at his own expence.

will rise still higher, in proportion as easier communications are opened up to fuel, manure, and markets *.

Cross-roads were formerly made and kept in order, by what is called *statute-labour*, under the authority of an old act of the Scotch Parliament, which obliged the inhabitants to work at them in person, or send their servants and horses, or pay a small conversion in money. This law was found to be very inefficacious. They, who came, wrought carelessly and without skill; and the conversion was often not demanded, or tardily paid. A successful application was made, in 1789, for a new act, empowering certain trustees to exact annually, from the occupiers of land in the different parishes, such a sum as the roads in each parish might require, to the extent of 10 s. Sterling on every L. 100 Scotch, according to the valued rent of their possessions, and also a small proportionate rate from householders, carriers, cadgers, &c. This measure was opposed, not without some colour of justice, by several farmers, on the ground of its making a material alteration in the terms of their leases, by subjecting them to a heavy, fixed, and unavoidable assessment on land highly valued, instead of an assessment on their horses and servants, which they had the option of lessening. But the quick and conspicuous effects, arising from its vigorous operation, in accommodating the community at large, and several individuals in remote situations, with excellent roads, have silenced all murmurs. Under the former act, the annual exaction might fluctuate extremely, but could not, in any year, greatly exceed L. 1000 through the whole county, and seldom was the half of that sum received: Whereas, by the present act, the annual

C c

assessments

* The value of Liddesdale, especially, must be vastly increased, when the roads, presently in contemplation, shall be completed, one to Hawick, and another to Jedburgh.

assessments may amount to L. 1573 Sterling, and have, in general, ever since its commencement, been drawn in most parishes nearly to their full amount.

In making both turnpike and cross roads, too little attention was at first paid to avoid acclivities, and conduct them in the most level and nearest direction. The Gentlemen were inexperienced, unwilling to break into inclosures, or to injure the property of any individual, desirous of studying each other's convenience, and, above all, anxious to observe economy. Hence the line of former roads was followed as much as possible, to prevent both cause of offence, and unnecessary expence. A road, already partly done, could be completed at an easier rate, than a road wholly new. And proprietors had less cause to complain when an old road was widened, than when a new one was carried through their fields. There was also some saving in taking the advantage of bridges already built, instead of erecting others. On the same principle, the making of roads was committed to those, who gave the lowest estimate, and who were both sparing of their materials, and unskilful in laying them on. In a few years, there was a necessity, in some instances to alter the direction, and in others to renew the roads. These errors, however, have long ago been perceived and corrected. The later roads are made with an evident regard to ease, convenience, and beauty; and are pleasing indications of the judgment and good taste of those by whom they were planned. Yet not only here, but in the greatest part of Scotland, the art of road-making is imperfectly understood; and perhaps the following hints, on this subject, may not be unacceptable to the public.

The first care should be to get a firm foundation. All the soil, and any soft substance that may be under it, must be thrown aside, till gravel, rock, or hard till is found. In cases, where this would be difficult or expensive, let the
bottom

bottom of the road, after paring off the surface, be laid with brushwood, bramble, the branches of trees, especially those which have numerous twigs, or such weeds and roots as are tough and cohesive. These form a kind of thick net, to prevent the stones from sinking, and the mud from rising. The stones should all be hard, broken very small, and none of them smooth or round. The rough sides and sharp edges and angles of those pieces made by the hammer, adhere together, detain the particles of sand and gravel which are forced down among them, and become a compact and firm body. Whereas large stones, and even small ones when smooth or round, invariably work their way to the surface by the jolting of heavy carriages. The greatest depth of stones should always be on the middle of the road; and there should be a very gentle slope towards each side, not above an inch or thereabouts to every three feet. When the slope is less, water will not descend readily; and, when it is much greater, all carriages will shun the declivity on the sides, and go along the highest part, crush it down, form ruts, and destroy the road. A slope of five or six inches in fifteen feet is too trifling to be felt as an inconveniency by any carriage, and affords reason to expect an equal pressure on every part of the road, than which nothing is more essential to its durability. It is also of vast importance to spread the gravel thickly, and equally, so that the teeth of a common garden rake may pass along, and draw aside the largest of those smooth and round stones with which it abounds, without reaching the broken stones laid below. These round and smooth stones, however small, should be subjected to the hammer, and mixed with the other ones which are still uncovered. If the road, after being thus gravelled, was carefully beat down with a rammer, or if a heavy roller was drawn along the summit and each side, all inequalities and hollows would sooner appear,

pear, and could easily be filled up with coarse gravel. A smooth equal surface, by not occasioning jolts, removes one manifest cause of injury to roads. And a little care for a season or two to fill up and consolidate the ruts, will present a road, which of all others bids fairest to last long and need little reparation. It is, indeed, attended with extraordinary trouble and expence at first; but will prove a saving in the end. By attending to these principles, Trustees on turnpike-roads may be assured, that they shall be no losers in the course of 30 years.

All the acts, hitherto procured, are limited to 21 years. It would save much expence, and be in other respects of advantage, could their duration be prolonged, if not to a perpetuity, at least to three times that period. And it is not easy to see any danger that would arise, from thence, to the British constitution, or any harm to individuals. At any rate, the Trustees of the roads in this county would do well to consider, in future applications to the Legislature, whether it would not be greatly for the general interest, to have all the four acts consolidated into one, and to dispose the toll-bars on the different roads and their branches in such a manner as to be less oppressive to individuals, and more productive on the whole. Several instances might be produced, wherein, by abolishing some toll-bars, and altering the position of others, the revenue would be increased; but the present mode being more lucrative to the Trustees of particular districts, no such alteration can be expected to take place, while the different districts have separate interests.

SECT.

SECT. II.—*Canals.*

THERE are no canals in this county, and very little probability of any being made. About seven or eight years ago, a gentleman in the neighbourhood of Kelso suggested the plan of cutting one from Berwick, or at least from Cornhill *, to Kelso; and there was afterwards a proposal of carrying it ten miles further along the Teviot to Ancrum-bridge, near the centre of the county. A subscription was opened; a survey of the proposed track was taken by Mr Whitworth; and inquiries were made concerning the probable amount of the imports and exports; the result of which was a full conviction, that, though a canal was practicable, at an expence which could not be thought immoderate, yet, if made, it could not support itself. After sinking above L. 30,000 Sterling †, all the dues and fares, which could reasonably be expected, would not keep the canal in proper order, repair its banks, locks, basons, and boats from time to time, furnish and maintain horses, and afford ordinary wages to the hands necessarily employed. The scheme of course was dropped. Every person, acquainted with the county, must perceive, that, towards no point the influence of a canal could extend above ten miles, and towards the south scarcely so far. Beyond that distance, the inhabitants

* The former 23, the latter 10 miles, as measured by the common road.

† Mr Whitworth's estimate of a canal from Cornhill to Kelso was L. 14,000. Other L. 14,000 would be necessary to carry it to Ancrum-bridge. And a greater sum to continue it from Cornhill to Berwick. Besides, the real expence of all such undertakings, generally exceeds the estimates.

inhabitants could bring coals and lime, those great articles of water-carriage, at a cheaper rate from other quarters, and find a more profitable market for their grain *. The necessary addition, of land-carriage from the pit or kiln to the quay, and of freight, to the prime-cost of coal and lime brought into the county, would raise their price too high to find a market, except in the near neighbourhood of the canal. And to lower the rate of water-carriage so much as to tempt purchasers to come from a distance, might indeed increase the imports, but would nearly annihilate the small revenue, which the canal might be expected to yield †.

SECT. III.—*Fairs.*

FEW counties have a greater number of large fairs, especially for black-cattle, horses, and sheep. In Kelfo there are three weekly markets in the beginning of March for horses, at each of which there is commonly a good shew. Here

* While, however, Berwick continues, as it certainly is at present, to be the principal market for grain, a canal to that port would be of vast importance to corn-farmers, and grain would form one chief source of its support. But should the great demand for grain come from other quarters, the canal would be neglected. And very little wool would be exported by it; as the greatest part of what is carried out of the county grows at a distance from its proposed track.

† The following note was furnished by Sir John Sinclair: "It may be proper here to mention, that, though a canal on a great scale might be too expensive, yet one for small boats, with inclined planes instead of locks, as proposed by Mr Fulton, is well entitled to the consideration of those who are interested in the prosperity of this county. And, for the particulars of Mr Fulton's plan, the reader is referred to his work on the subject in one vol. 4to."

Here likewise are two fairs, on 10th July for cattle of different kinds, and on 2d November for hiring servants, and for cattle to be fed on turnips or kept on straw during winter. St James's fair (August 5.) is held on a beautiful green opposite to it between the confluence of the Tweed and Teviot, and presents a large shew of horses and of cattle for aftergrass and turnips. A good deal both of linen and woollen cloth, also, is sold wholesale. Jedburgh has a considerable fair, in the beginning of June, for milch-cows, lean cattle to be laid on grass, and young cattle; another on 25th September for cattle designed to be put first on aftergrass and then on turnips; and a third about Martinmas like the November fair at Kelso. At all these fairs, there is a considerable number of horses. There is, at Hawick, a tryft for Highland cattle between Falkirk and Newcastle fairs, a large fair on 8th November for fat and lean cattle, and another on 17th May for hiring servants, particularly ewe-milkers and shepherds. Melrose has three fairs, one on the first Wednesday of June for milch-cows and other cattle, one in August for cattle to pasture on the second growth of clover, and a more considerable one than either of these on 22d November for cattle, several of them fit for the shambles, others in proper order for being fed on turnips, and not a few to be kept on straw. In June, there is a fair at Town Yetholm for lambs, and another at Kirk Yetholm for young and old sheep who have not lost their fleeces. At Rink, near the Carter, there is one for lambs on 12th July. And, at both these last mentioned places, there is a fair in October for *draught* or *cast* ewes. The greatest fair in the south of Scotland is held on St Boswell's Green on 18th July for lambs, sheep, black-cattle of every kind, horses of all descriptions, linen and woollen-cloth, and an incredible variety of lesser articles. Yet it is much on the decline; the

customs,

customs, which some years ago brought at an average about 40 guineas, yielding this year (1796) only L. 33. At this fair, and at the summer fairs at Yetholm and Rink, wool is chiefly sold; or rather the price of it is fixed. There are several lesser fairs for particular purposes: And a considerable number of farmers and cattle-dealers in this county frequent the neighbouring fairs; particularly one at Earlstoun on 29th June for milch-cows, black-cattle for grazing and fattening during summer, and horses; one at Selkirk on 21st August for cattle half-fed fit for the second growth of clover; one at Whitsonbank near Wooler on Whitson-Tuesday for black-cattle, sheep, and horses; one at Stagshawbank near Hexham in the beginning of July for cattle of all kinds, sheep, lambs, and horses, especially young ones; and one at Rothbury in the beginning of November for lean cattle. A few of them go annually, to Falkirk and Crieff trysts for black cattle, to Skirling and fairs in the county of Lanark for horses, to fairs in Dumfriesshire for polled cattle, and to Newcastle for horses chiefly though partly also for cattle. Some seldom stir abroad either to markets or fairs, but dispose of their sheep, lambs, wool, cattle, and grain to purchasers, who come to their houses; and, when in want of any of these articles, endeavour to procure them by a private bargain.

SECT. IV.—*Weekly Markets.*

THERE is a weekly market at Jedburgh on Tuesday, at Yetholm on Wednesday, at Hawick on Thursday, at Kelso on Friday, and at Melrose on Saturday; at each of which there is a regular supply of every kind of butcher-meat in its season. The market at Kelso is in every respect

spect best furnished and attended. Much cattle and grain are sold every week, besides a variety of lesser articles. It is frequented, by cattle and corn dealers from the northern part of the county, and from the contiguous parts of Berwickshire and Northumberland, and by victuallers from Berwick. Farmers, from the south part of the county, and from the north-west of Northumberland, who raise little or no corn, and all the shepherds, labourers, and artisans, who inhabit these hilly regions, are generally supplied with that necessary commodity, as well as with butcher-meat, &c. and sell their fed sheep and calves to the butchers, in the weekly markets at Jedburgh. People of this description, towards the S. W. W. and N. W. extremities of the county, and in the skirts of Selkirkshire, are in like manner furnished with these common articles at Hawick, and have an opportunity of selling their sheep and lambs. The markets at Jedburgh and Hawick are always attended by farmers from the arable part of the county, to purchase their weekly provisions, and to dispose of their grain to meal-mongers, who manufacture it into flour, meal, and pot-barley: And these are carried, sometimes by the sellers, and sometimes by the buyers, into those districts where little corn grows. A good deal of grain is likewise sold at Melrose, but, in other respects, the markets there and at Yetholm are rather insignificant.

SECT. V.—*Commerce.*

If an inland county can, with propriety, be said to have any commerce, that of Roxburghshire consists, in importing some common necessities and a few luxuries, and in exporting sheep, lambs, wool, cattle, and grain. It is impossible to ascertain the actual amount and value of these with any degree of certainty. According to the facts sta-

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ted in different parts of this survey, they may be computed as under:

Sheep, 56000, † at L. 1 each,	L. 56000,	† at 16s. each,	L. 44800
Lambs, 14000, † at 6s.	4208,	at 5s.	3500
Wool, 25000 ft. at L. 1, 4s.	30000, † at L. 1,		25000
Turnip-cattle, 6000, † at L. 3,			
12s.	-	21600,	- 21600
Grass-fed do. 6000, † at L. 2, 2s.	12600,	-	12600
Oats, 41008 acres, at L. 4,			
10s. per acre,	-	184536, † at L. 3, 10s.	143528
Barley, 16404 do. at † L. 4, 4s.	68896,	at L. 3, 10s.	57414
Wheat, 9842 do. at † L. 6,	59052,	at L. 5,	49210
Peas, 6562 do. at L. 4, 10s.	29509, † at L. 3, 10s.		22947
Total price of the county,	L. 466393		L. 380599
Taking the medium between these two computations,	- - - -		L. 423496 0 0

From it there must be deducted,

1. The rent of the county, as in Chap. II.

Sect. 1. - L. 171941 12 0

2. The grain consumed by the inhabitants and by horses, as in Ch. XIV. Sect. 2. viz.

832364 stone meal, at 2s. per

stone, - L. 83236 8 0

52080 bolls oats, at

16s. 31664 0 0

114900 0 0

Carried forward, L. 286842 0 0 L. 423496 0 0

† †, &c. These marks were prefixed, by an intelligent friend, to those articles, in the different calculations, which, in his opinion, are nearest to the truth. According to him, the whole produce of this county amounts to L. 413,823 Sterling annually, which is only L. 9673 Sterling less than the medium taken in the text.

OF ROXBURGHSHIRE.

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Brought forward, L. 286842	o	o	L. 423496	o	o
3. About one-fifth of the sheep,					
lamb and cattle fold, u-					
fed for home consump-					
tion, - -			L. 17690	o	o
			304532	o	o
Remains of gain to the county, after pay-					
ing rents, and feeding people and cat-					
tle, - - - -			* L. 118964	o	o

* The reader will perceive, that all these calculations are founded on the information contained in the preceding pages; and particularly, that the number of sheep and lambs correspond exactly with the sales of a sheep-farm given by an actual farmer in Chap. IV. Sect. 6. *On Expence and Profit*. A gentleman, however, well acquainted with Roxburghshire, and the management of sheep, is of opinion, that fewer old sheep are sold annually, and many more lambs. Supposing the county to be wholly stocked with ewes, the annual sales would consist of, one-sixth of them, and about five-sevenths of the lambs produced by two-thirds of them. After making the usual allowance for mortality, one-sixth of 200,000 ewes would not exceed 30,000, and five-sevenths of 133,332 lambs would be reduced to 93000. These he reckons

The former or 30,000 old sheep, at 16 s.	-	-	L. 24000	o	o
The latter or 93,000 lambs, at 7 s.	-	-	32550	o	o
Thus making the annual produce,	-	-	L. 56550	o	o

which is a mere trifle above the value of sheep alone, according to the highest calculation in the text, but considerably above the value of both sheep and lambs, according to the lowest. But the difference will be less if either of the prices in the text are adhered to in both calculations.—
Thus,

30,000 ewes, at 20 s.	L. 30000	o	o	at 16 s.	L. 24000	o	o
93,000 lambs, at 6 s.	27900	o	o	at 5 s.	23200	o	o
	L. 57900	o	o		L. 47200	o	o
Amount, as stated in the text,	L. 60200	o	o		L. 48300	o	o

Perhaps, however, the safest way is to take a medium both between the numbers of sheep and lambs, and their prices. The medium between
56,000

SECT. VI.—*Manufactures.*

THE manufactures in this fine county are very inconsiderable. From the large quantity and good quality of the wool produced, and from the excellent situations which every where abound for water-machinery, there is every reason to expect that the woollen branches might prosper. But the few clothiers, scattered through the different towns and villages, are chiefly employed in what is called *country-work*, that is making small parcels of wool and yarn, sent to them by different families, into cloth, flannels, or worsted-stuffs, according to the instructions they receive. Hence it is not easy to ascertain the precise quantity of wool manufactured by them on their own account, especially as those, who do most in this way, live in the very suburbs of Galashiels in the county of Selkirk, from whence they moved only a few years ago, have a great part of their machinery, and nearly all their principal hands, in that village, and are in every respect so connected with the clothiers there, that an account of their manufactures falls properly to be included in the Agricultural View of Selkirkshire. Setting aside the wool used by them and by private

56,000 and 30,000 is 43,000 sheep; the medium between 93,000 and 14,000 is 53,500 lambs; and the medium prices are, for sheep, 18 s. and lambs, 6 s.

43,000 sheep, at 18 s.	-	-	-	-	L. 38,500 0 0
53,500 lambs, at 6 s.	-	-	-	-	16050 0 0
					L. 54,550 0 0

How very near is this to the exact medium between the two calculations of these articles in the text, which is L. 54250 !

OF ROXBURGHSHIRE. 213

vate families, the whole quantity wrought by actual manufacturers may be estimated as under :

Carpets at Hawick,	-	-	-	-	St. * 2700
Woollen-cloth there and through the county,	-	-	-	-	1300
Flannels and blankets,	-	-	-	-	900
Stockings and worsted-pieces,	-	-	-	-	300
					St. 5200

The carpets are allowed to be admirably fabricated, and are found to wear well. The proprietors, instead of selling those parts of the wool, which are picked out as too fine, or not of a proper nature for carpets, have, of late, made them into carpet and table-covers, rugs, saddle-cloths, &c.† At Hawick, the woollen manufacture is still in its infancy, but makes such rapid progress, that more wool is used there than in all the rest of the county. It is there, too, that stockings are chiefly made, though weavers of them are to be found, venturing on a small scale at their own risk, in many corners of the county. The greatest quantity of flannel and blankets‡ is made at Kelso and Jedburgh.

* The Stat. Acct. Vol. VIII p. 528. makes the quantity 220 packs of twelve stone each, or 2640 stone. Since the 1792 or 1793, when the Stat. Acct. was written, the quantity used has rather increased.

† Stat. Acct. of Hawick, p. 528,—9.

‡ Carpets cost 3 s. 8 d. and 3 s. 10 d. per yard. Coarse and narrow woollen-cloth is made from 1 s. 8 d. to 5 s. per yard. Flannels, 7-8ths wide, from 1 s. to 2 s. Blankets, 3-4ths and 7-8ths wide, from 10½ d. to 1 s. 4 d.; and yard wide, from 1 s. 4 d. to 2 s. 2 d. Stockings, made of wool, at L 1, and from that to L 3 per doz. and of cotton, from 24 s. to 50 s. per doz.

burgh. Premiums have been gained, by the manufacturers of these articles in both places, from the Honourable Board of Trustees.

Though much lint was never raised here, yet formerly a great deal more of linen-cloth was made than at present. Foreign flax was chiefly used; and the spinning of it constituted the principal work, during winter, of maid-servants in every family, and of the wives and daughters of cottagers and mechanics. The populous neighbourhood of Melrose was particularly famous for the number of its spinners and weavers, and the quantity of excellent webs produced there. But now foreign flax has risen too high to yield a reasonable profit. There is not enough raised in the neighbourhood to give employment to so many hands. Women earn more by spinning wool or working in the fields, and weavers by working cottons for manufacturers in Glasgow. Yet a bleachfield*, set on foot there about forty years ago when the weaving of linen was in its zenith, continues to thrive. This is to be ascribed to its being now the only one in the county, to the attention and good management of the bleacher, and to the number of pieces made, by private families for their own use, or by the wives and daughters of cottagers, labourers, artisans, and farm-servants, from the small lots of lint they frequently obtain permission to raise for the dung which they furnish, though, indeed, such people commonly bleach their webs themselves, when they have the convenience of a green spot and a clear stream near their dwelling-houses, and sell what is finer than their homely wearing, for a little money to answer any emergent occasion. More lint is raised, spun, and wrought, in the lower parts of the county, where the woollen manufacture has not found its way, and
where

* Stat. Acct. of Melrose, Vol. IX. p. 81.—2, 3.

where a lady * from Fife had the merit, of introducing the two-handed wheel about sixteen years ago, and of teaching her neighbours to use it, by which they nearly double the quantity of yarn they formerly spun in a day. But there is no manufacture carried on, except one in Kelso for coloured thread †, which employs above an hundred spinners, and one at Hawick of inkle †, which consumes annually ten tons of linen-yarn. Both are conducted with skill and enterprize, and are in a flourishing condition. There are two mills in the county for fwitching lint, and both are kept pretty constantly at work.

Both tanned and white leather is manufactured at Hawick and Jedburgh. A good deal, also, is tawed at Kelso and in the neighbourhood of Galashiels, belonging to this county. The tanning branch, though succeeding very well, and yielding a higher duty to Government than the other, is not carried on to such extent. The vast number of sheep and lambs, which are slaughtered, or die in severe or unhealthy seasons, is a strong inducement to attempt the manufacture of their skins. There are twenty tawers, here called *skinners*, in Kelso, and about twelve more in the rest of the county †. In Kelso, about 120,000 skins of all kinds are manufactured annually. If the half of that number be allowed for the other places in the county, nearly as many skins will be annually dressed as there are sheep in it, and more than double the number of those which are sold or die

* Mrs Morison, wife to the Seceding Clergyman at Morebattle, Stat. Acct. Vol. XVI. p. 510.—Mr Ure, p. 71.

† Mr Ure, p. 71.—† Stat. Acct. of Hawick, p. 529.

‡ This includes apprentices and journeymen as well as masters. There are only fourteen who pay duty to Government, Stat. Acct. of Kelso. Vol. X. p. 586 and p. 590.

die annually. The tawers must therefore be supplied from other places.

Jedburgh was once deservedly celebrated for its candles. They are still made there, and at Kelso, Hawick, and Melrose, but not in sufficient quantities to serve all the families in the county. Many make their own candles, or get them from other places, especially from Edinburgh, Leith, and Dalkeith.

But the chief article of manufacture is grain into meal, flower, pot-barley, malt, beer, and porter. The mills, besides the consumpt of the county, grind annually not less than 40,000 bolls of all grains. There are brewers and maltsters at Kelso, Jedburgh, Hawick, Melrose, Ednam, Yetholm and Smaillholm.

The excise paid to Government, from the 6th July 1794 to 6th July 1795, on all these articles, was as follows:

TABLE.

T A B L E.

	Malt Liqueor.			Malt.			Tanned Leather.			Tanned ditto.			Candles.			Total paid by each Place.		
	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.
Kello, -	350	0	6	146	10	11	—	—	—	120	7	3 $\frac{1}{2}$	186	8	0	803	6	8 $\frac{1}{2}$
Jedburgh,	111	0	3	54	3	0	100	4	0	8	7	4 $\frac{1}{2}$	58	0	1	331	14	8 $\frac{1}{2}$
Hawick,	233	9	1	127	6	3	170	17	3	4	2	9 $\frac{1}{2}$	32	13	9	568	9	1 $\frac{1}{2}$
Melrose,	150	19	8	89	11	11	—	—	—	44	4	9 $\frac{1}{2}$	12	16	1	297	12	5 $\frac{1}{2}$
Ednam, -	637	0	9	158	5	4	—	—	—	—	—	—	—	—	—	795	6	1
Yetholm,	0	18	0	2	9	4	—	—	—	—	—	—	—	—	—	3	7	4
Smallholm,	2	3	4	22	5	5	—	—	—	—	—	—	—	—	—	24	8	9
	1485	11	7	600	12	2	271	1	3	177	2	3	289	17	11	2824	5	2

F 2

* This duty is paid for the white leather tawed in the suburbs of Galashiels which are in Melrose parish.

SECT. VII.—*Poor.*

THE principal facts relative to the poor will be found under the article *Poors-rates*, Chap. IV. Sect. 4, and in the annexed table. It may not be improper to add here, that the county is often infested with gangs of tinkers and horners from the neighbourhood of Berwick, and sometimes from the shires of Ayr, Renfrew, and Lanark. They travel with their wives and children on asses, mules, or ponies, loaded with their wares and tools; and, though they disdain the name of beggars, are a fore burden on the farmers for lodging and provisions to themselves and cattle. At the time of sheep-shearing, too, sturdy women, chiefly from Edinburgh and Dalkeith, provincially called *Randies*, traverse the pasture district, under pretence of gathering or asking locks of wool, and are suspected of taking more than is given them. Some of both classes are so mischievous, as to assault those who are weaker or more timid than themselves, to break the windows, and in other respects to demolish the property of such as refuse their demands. Quacks, jugglers, and strolling players not unfrequently pick the pockets of the industrious. And old soldiers and sailors glean some contributions which they commonly leave at the next alehouse. Nobody, who resides in the county, ever begs, except perhaps a blind fidler, or such as labour under mental imbecility. Gleaners in harvest became so great a nuisance, that farmers, in the lower and arable parts of the county, allow none to enter their fields till the corn is removed; and, in general, only the infirm or the young, who can do nothing else, are permitted any where
to

to follow the reapers. By this mode of charity, children have sometimes picked up as much grain, as, with frugal management, maintained the family of a cottager for six or eight weeks. A few, who have been unfortunate in better stations, find a welcome reception at the tables, and are supplied with decent apparel at the joint expence, of their friends and former companions. To the honour of all concerned, let it be mentioned, that no where is more liberal provision made for the poor in times of real charity. In every parish, during the winter 1795-6, the assessment was increased, or a voluntary contribution was raised. The high prices of provisions bore harder on families in the middle ranks of society, than on the parochial poor.

SECT. VIII.—*Population.*

IT is a pleasing consideration, that, after all the complaints made of depopulating the country, by the union of farms, by the demolition of villages, and by emigrations to avoid oppressive laws, there is, on the whole, a small increase in the number of inhabitants in this county since the year 1755. There may, indeed, be reason to suspect that the numbers were not then accurately returned, but might be stated, from conjecture, in some parishes above, and in others below the truth. But there can be no doubt, from the testimony of many attentive observers still alive, that several villages, farm-houses, and cottages have disappeared within these forty years, and that several districts have been almost wholly deserted. On the other hand, it is equally certain, that during that period many farm-houses

ses have been built in new situations, that some villages have been created, and others enlarged, that the manufactures in Hawick have considerably increased the population there and in the neighbouring parishes of Wilton and Cavers, that the manufactures at Kelso * and Ednam have had the same effect on the population of these parishes, that the skirts of Melrose parish have received an addition of inhabitants from their contiguity to the flourishing manufactures at Galashiels, and that the desire of independence has drawn numbers to villages for the sake of purchasing houses and small spots of land sufficient to maintain a cow, a horse, or both. These ways, however, of increasing the population are by no means favourable to agriculture, as necessary and useful hands are removed to a distance from farms, where there is the greatest occasion for them, and besides acquire a dislike to every kind of work which does not employ their horses as well as themselves. Proprietors and tenants will find it their mutual interest, to have villages on every considerable estate, and cottages on every farm, and, that labourers may be induced to settle among them, to make the houses comfortable, and to let them at low rents. For in a county, distant from fuel and from some of the most necessary articles of consumpt, where such evident and great profit arises from bringing these, and per-
forming

* The Statistical Account of Kelso, Vol. X. page 587. ascribes the great increase of population in that place to widows and single women living more conveniently, and getting *employment* more readily there than in the country, and to the destruction of villages sending the occupiers thither for habitation and *employment*. But still *employment* in one line or another is allowed to be the cause of their flocking thither; and in all places as large as Kelso, the different branches of manufacture, either in a direct or indirect manner, afford the chief employment to the inhabitants.

forming various other works with horses, to counterbalance this obvious advantage, every encouragement should be held out to that useful class, which is most likely to engage them in the different branches of manual labour, that the operations of husbandry may be carried on in a speedy and effectual manner.

A TABLE of the Population, Poor, Expence of maintaining them, number of Acres in Natural and Planted Wood, and Valued Rent of the different Parishes in ROXBURGHSHIRE.

PARISHES.	Population in		No.	Poor.		Exp.	Woods.		VALUED RENT.		
	1755,—	1790-5					Plant.	Natur.	L.	s.	d.
Jedburgh,	5816—	2800	92	300	& int. of	442	460	} 150	23567	6	4
Southdean,	480—	714	22	56	*		60		6415	4	0
Hobkirk,	538—	700	25	76			260	90	9354	15	6
Castletown,	1507—	1410	79	224			236	100	15860	0	0
Kirktown,	330—	342	13	30			} 350	} 93	4526	13	4
Cavers,	993—	1300	49	135					18877	6	8
Hawick,	2713—	2028	110	370			78		11591	11	0
Wilton,	936—	1215	35	200			80	—	7545	6	8
Minto,	395—	513	16	48	& int. of	50	420	—	5163	4	0
Bedrule,	297—	259	11	32	& int. of	56	8	8	3475	13	4
Ancrum,	1066—	1146	24	110			400	60	2332	2	0
Crailling,	387—	672	14	27	*		220	—	8733	0	0
Oxnam,	760—	690	24	76			140	—	14101	10	8
Hownam,	632—	365	9	30			50	—	10970	17	2
Eckford,	1083—	952	24	66			200	7	11130	13	4
Morebattle,	789—	789	16	int. of 1600			30	—	16081	14	8
Yetholm,	699—	1050	32	134			27	—	7049	13	4
Linton,	413—	383	14	46			30	—	5514	6	8
Sprouston,	1089—	1089	18	50	*		24	—	13263	6	8
Ednam,	387—	600	12	48			50	—	6880	0	0
Kelfo,	2781—	4324	92	276			200	—	15257	9	0
Roxburgh,	784—	900	23	69			110	5	9944	6	8
Makeritoun,	165—	255	none.	none.			70	—	5617	6	8
Smaillholm,	551—	421	11	43			41	—	5359	16	8
Maxton,	397—	326	8	27			40	—	5490	6	8
St Boswells,	309—	500	3	14			120	—	4521	17	10
Melrose,	2322—	2446	148	87	*		300	60	19985	4	6
Bowden,	672—	860	20	65			50	30	8030	11	0
Lilliesleaf,	521—	630	5	23			350	—	8265	8	4
Roberton, †,	465—	449	21	85			84	5	7423	12	4
Ashkirk, †,	450—	383	7	24			80	—	5181	18	4
Selkirk, †,	50—	50	none.	none.			26	—	1153	16	8
Galashiels, †,	148—	134	2	5			8	—	2334	6	8
Stitchill, †,	479—	500	none.	none.			80	—	3062	9	0
Abbotrule †,	189—										
31593—32103		979—2776		4682—608							
31593											
Increase since 1755.		510									

* There is a considerable collection weekly in the parishes thus marked.

† Now suppressed and annexed to Southdean and Hobkirk.

For the Agricultural survey

THE COUNTY OF
SELKIRK
Surveyed and Engraved
by John Ainslie Edin.





GENERAL VIEW
OF THE
AGRICULTURE
IN THE COUNTY OF
SELKIRK.

SING : my bonny harmless sheep,
That feed upon the mountains steep,
Bleating sweetly, as ye go
Through the winter's frost and snow ;
Hart, and hind, and fallow deer,
Not by half so useful are ;
Frae kings, to him that hads the plough,
All are obliged to TARRY WOO.

GENERAL VIEW

AGRICULTURE

SLICK RIVER

AGRICULTURAL SURVEY

OF

SELKIRKSHIRE.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. I.—*Situation and Extent.*

THE shire of Selkirk is not of great extent, and of a very irregular form. Nor do its boundaries, in general, run along the summits of mountains, or the course of streams, which, however crooked, would afford evident marks for description. A line, nearly ideal, and often whimsical in the extreme, divides it, in very many places from the surrounding counties. Part of it stretches towards Mid-Lothian on the north, between the counties of Roxburgh and Peebles, having, on the east, that track of the
F f former

former which lies north of Tweed between the waters of Gala and Leeder *, and on the north-west and west, skirting the latter, from the northern extremity of Windlestrae-law, across Tweed, to the confines of Dumfries-shire towards the source of Yarrow-water, a distance of about twenty miles, though measured in a straight line, and much more than double that length, following the excentric line of the marches, which, jutting out into sharp angles, and shapeless promontaries, in some places nearly incloses larger or lesser portions of Tweeddale. The boundary with Dumfries-shire on the south-west and south is more regular, keeping mostly the very ridge of the mountains, from whence springs issue and rain-water descends in different directions towards the western or eastern coast, and extending upwards of fifteen miles. Upon meeting again with Roxburghshire, towards the south-east, the boundary resumes its irregularity, cutting the parishes of Roberton, Ashkirk, and Selkirk, into very unequal parts, and taking many unaccountable turns, till it falls upon the river Ettrick, about a mile above its junction with Tweed, and the same distance below the county town, and follows the course of these two rivers till they receive the Gala. It is impossible to calculate, with any pretensions to exactness, the measurement of these various curvatures, but a straight line makes the boundary with Roxburghshire about twenty-four miles. That county also completely surrounds a small circular space, nearly two miles in diameter, belonging to Selkirkshire, towards the eastern extremity of Ashkirk parish.

The whole county, thus bounded, lies between $55^{\circ}.22.$ and $55^{\circ}.43.$ N. latitude, and between $2^{\circ}.36.$ and $3^{\circ}.20.$ W. longitude from Greenwich. Its greatest length, from the

* See p. 2. and 3.

the source of Ettrick water to the junction of Gala and Tweed, is 27 miles; and its greatest breadth, at right angles with the above, is, from Borthwick-brae to Glenfaxburn, rather more than seventeen miles. Taking at a medium twenty miles for its length and twelve for its breadth, it will contain 240 square miles or 153,600 acres. But a gentleman of accuracy, who took the trouble of measuring the map *, makes its contents 257 square miles or 164,480 acres. Both these computations are by some thought too high; and, indeed, it is very difficult to ascertain the exact area of a county so awkward in its shape, and unequal in its surface. The lowest part of it is about 300 feet above the level of the sea; many houses are 600 and some more than 1000 feet. With the exception of a few valleys, the whole of it is mountainous; and most of the mountains are of considerable height. Blackhouse heights are 2370 feet; Windlestrae-law, 2295 feet; Minchmoor, 2280 feet. Ettrick-pen, 2200 feet; Lawkneis, 1990 feet; Wardlaw, 1986; Hanging-shaw-law, 1980 feet; Three Brethren, 1978; Black Andrew, 1966 feet; and Peat-law, 1964 feet†; besides a great number from 1800 to 1000 feet, all above the same level. It includes only two complete parishes, those of Ettrick and Yarrow, and three other parish-churches, Selkirk, Galashiels, and Robertson, about $\frac{1}{2}$ of Selkirk, $\frac{2}{3}$ of Galashiels, $\frac{1}{3}$ of Robertson and Ashkirk parishes, scarcely so much of Stow, a parish in Mid-Lothian, about $\frac{1}{4}$ of Innerleithen and a small corner of Peebles parishes, both in Tweeddale.

SECT.

* By Ainslie in 1772.

† All taken from Ainslie's map.

SECT. II.—*Divisions.*

FROM the elevated and exposed situation of the county, it is not well adapted for tillage, and is scarcely susceptible of any division in an agricultural view. The arable part of it, at present, may amount to about 8800 acres. And a regular course of crops could not be raised on double that quantity, to the advantage of the farmer, and without injuring the sheep-walks. Considered as a pasture district, it may be divided according as it is stocked with black or with white faced sheep. The former are preferred on the higher grounds towards the sources of Yarrow and Et-trick waters, from Ladhope above Yarrow church on the one, and from Deloraine and Hindhope on the other. Through the rest of the county, they are rarely to be seen, and of late a few of the latter are introduced into these upper regions.

SECT. III.—*Climate.*

IN the lower part of the county, there is not so much humidity as might be expected, from its elevation, and the numerous mountains with which it is surrounded. Less rain falls at Selkirk than at Wool* about five miles nearly due

* See pages 4, 5. I regret that I cannot subjoin an extract, from a register of the weather kept at Selkirk, to contrast it with the one given from Wool, but, for the reader's satisfaction, I copy a note from the Stat. Acct. of that parish, Vol. II. p. 438. " By a regular attention to the
" pluviometer

due south of it; and only about $\frac{1}{2}$ inch more than at Hawkhill * near Leith. Braxholm† or Wool† may be taken as a pretty just standard of the climate, about six or eight miles above Selkirk, on the waters of Ettrick and Yarrow. And there are very few places, even in the highest parts of the county, so very moist as Langholm †; though, in proportion as it rises, there is a greater quantity of rain, the air becomes more cold and penetrating, frosts are more early and severely felt, and snow lies deeper and longer. On some vallies 600 feet above the ocean, the rays of the sun, reflected by the surrounding mountains, throw a degree of heat that brings the crop very quickly to maturity. The number of springs, which are obstructed in their course, form marshes † more or less shallow and extensive.

There

"pluviameter, barometer, and Fahrenheit's thermometer, for ten years, the mean quantity of rain yearly was found to be $31\frac{1}{2}$ inches; the medium height of the barometer, $29\frac{2}{10}$; the medium of heat 43 degrees. Nor did the medium of heat differ one degree during these ten years."

* Stat. Acct. of Selkirk, Vol. II. p. 438. Hawkhill probably is, in every respect of climate, not unlike Dalkeith, p. 4, 5.

† See the Tables, page 4, 5.

‡ By a *marsh* I mean a surface kept perpetually wet, and generally overgrown with rushes, by the obstruction of springs and the detention of rain-water. Marshes are always shallow, and are now mostly drained. A *morass* is flat, of considerable depth, apt to be overflowed in winter, but in summer so dry as to be pastured, or to produce coarse hay, though some of them, or rather some spots of them, never acquire as much solidity as to bear the weight of a man. A *morass*, from whence peats are dug, is called a *moor*, (see p. 7.). The surface of many places, on the sides, summits, and hollows of hills, is covered with this substance, which is always more or less retentive of moisture.—This is meant by *mossy* land.

There are many morasses, some of them of an unknown depth; a good deal of mossy land; and several lakes. The moisture, exhaled from the vast quantity of water collected in these, cannot fail to increase the dampness of the atmosphere, and to produce frequent mists and showers. Nor can this inconvenience be essentially lessened by those numerous drains, which are daily making, though these must doubtless contribute, in some degree, to meliorate the climate. The general course of the weather and seasons is much the same as in Roxburghshire.

SECT. IV.—*Surface and Soil.*

THE general appearance of this county is a continued succession of mountains, gradually rising one above another in loftiness, very different in shape and magnitude, mostly green and bare, though several are heathy, and a few are covered with trees. Their naked and bleak aspect, when seen at a distance in cloudy weather, is lost, upon riding among them, and beholding the rich sward with which they are covered, the clear streams which issue from their sides, the fleecy flocks browsing on their green pastures, and their lambs frisking around. The animation of the scene is heightened, by patches of brushwood and small clumps of trees with which in a few places the hills are adorned, the fertility of the vales by which they are separated from each other, and the romantic banks of the waters which wash their bases. The windings of Tweed and of Yarrow form a scenery, which is finely variegated, and which may vie in beauty with the celebrated * vale of Langollen.

The

* Rendered famous by the pen of Miss Seward, and by the residence of two young ladies of quality from Ireland.

The soil of the sheep-walks, with some exceptions, is found and dry, generally from its lying on a bottom of gravel, granite, or whinstone, and even a good deal of it, either inclining towards clay, or incumbent on clay or till, is prevented from retaining a hurtful quantity of water, by its steepness, and the firm consistence of its surface. There is very little pure clay in the whole county; and most of the land, where a mixture of it appears, or where it forms part of the substratum, lies on the sides of hills, nearly at an equal distance from their summits and the vallies below. There are some, though very few marshy spots, near the sides of rivers, and on the tops of high mountains. There is, indeed, an extensive flat, in an elevated situation between the waters of Ettrick and Borthwick, of a soft and spongy nature, and full of morasses, which may be considered as the only exception to the general assertion that deserves to be noticed. Heath grows vigorously on dry soil, but becomes rare and stunted, according to the wetness of the land, and in very wet land disappears altogether. Detached portions of it are found in every corner. It is only on the higher grounds towards the sources of the waters, that the mossy soil prevails; sometimes appearing in its native dark and sterile hue, but more frequently presenting a thin sward of beautiful and tender grass, through which the feet of cattle sink more or less, according to the depth of the mossy substance, and the quantity of rain it has imbibed. It is in such places, chiefly, that the plant abounds, which hence is called *moss*, of whose leaves and roots sheep are so fond early in spring, when other food is scarce.

The soil of the small part in tillage, is light, dry, and easily managed. Even the few places, which lie on till, have so much declivity, that a little care, in laying out and ploughing the ridges, carries off both the springs and
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the surface-water. Very little of it is sufficiently deep and strong for producing wheat. But nearly the whole of it is admirably adapted for turnips, clover, barley, and oats. Peas, too, succeed very well. The white grains, though not large, have thin husks, are plump, and of an admirable quality. Turnips seldom fail, and a very great weight of clover has been raised upon an acre. I mention these facts, as conveying to every intelligent reader the best idea of a sharp, warm, and kindly soil, which is rather, on the whole, deficient in depth. White clover appears, in every field that is surrendered to pasture, without having been sown, and indeed is found throughout the whole county, wherever the soil is dry.

SECT. V.—*Minerals.*

THERE are no metals, coals, lime, or freestone in any part of this county. But there is abundance of whinstone, and a good deal of granite. Mosses, formed of decayed wood and other vegetables, are made into peats for fuel. Some of them are of considerable extent and depth. And those towards the south-east, in the parishes of Selkirk, Roberton, and a corner of Yarrow and Ashkirk, cover large beds of excellent shell marl. In the rills, by which some of them are fed, many small stones are found; some of them overspread with a gleety or glutinous substance; others incrustated with matter, very similar to that of which the shells are composed; others again with shells in every progressive state of formation; and a few with the animals alive, in shells completely formed, but of different degrees of consistence and hardness. These shells, when perfected, either quit the
stones,

stones, or are washed from them by the stream; and though a few of them are sometimes left upon the grass which it occasionally overflows, yet they are in general carried down by the swelling torrent, and lodged in the moss, into which it empties itself, and through which with difficulty it filters its way. There they accumulate in heaps; the animals perish; and their bodies, with the roots and fibres of the vegetables which grow up among them, are converted, in a long course of years, into an unctuous slime or mud, which, as well as the shells, crumbles down into a fine powder by the action of the air. In a lake of considerable extent and depth, called *Oakermoor-loch*, there is a vast quantity of marl. It is situated on very elevated ground, and surrounded by low and sloping banks, except in one point, where it sends out a small stream. Water oozes from the sides of the banks towards the lake; but the opposite sides of all the banks are dry above the level of its surface; below that level, numerous springs issue, and, within a few yards of their sources, are seen those various appearances which have been described. This has led to a conjecture, that the water of the lake may have found subterraneous passages, and carried, along with it, some shells entire, others dissolved into particles which afterwards accumulate upon and incrustate stones, and a part of the viscid matter, always surrounding shells in the pit, which by its nature tenaciously adheres to stones, and assumes various fantastic forms easily mistaken, by superficial observers, for shells in different stages of perfection. But, besides the improbability of the same water finding a course nearly level under ground in so many different directions, this theory is contradicted by two ascertained facts; one of which is the animal being frequently seen alive in shells while yet soft and ductile; and the other is no incrustations or imperfect shells being perceived in those mosses, pits, or

hollow places, where the shells are deposited and whence marl is dug. Similar incrustations, and even small balls composed entirely of the same matter, are sometimes found in the beds of brooks which do not pass through marl, and, being evidently calcareous, are supposed to be formed by springs impregnated with lime. Yet that no rocks of lime have ever been discovered in the county or within many miles of it, that there is abundance of marl in the near neighbourhood of the brooks where such incrustated stones and balls of calcareous earth lie, and that shells, especially when calcined or reduced in any way to powder, have all the common qualities of lime, are circumstances rather unfavourable to this supposition.

These particulars, while they prove beyond a doubt that marl is the production of fresh-water animals, present difficulties to be solved by naturalists, and open to them some curious sources of speculation and inquiry. To account for the incrustation of stones with calcareous earth in a county where no lime is known to exist, and to determine whether it comes, from some rock as yet unexplored, from loose fragments or particles scattered among other substances, and washed away by streams, or from pulverised shells, or from any other matter found in the neighbourhood, requires a scientific knowledge of these subjects, as well as an accurate examination of the surrounding mountains, and the different strata of which they are formed. On the supposition of the incrustation proceeding from a rock or detached pieces of lime, it may become a question, how far this substance is necessary or useful to the animals in rearing their shells, and, on the other supposition of its being occasioned by pulverised shells, it is of equal importance to ascertain the materials from which these shells are constructed.

SECT.

SECT. VI.—*Waters.*

LIKE all mountainous districts, this county abounds in springs; and, as it contains no minerals, its waters are all pure, salutary, and agreeable to the taste. From its small extent, none of the numerous streams, which rise in it, can be expected to arrive at a considerable size, and they all lose their names in the Tweed or the Teviot. Gala, which has its source in Mid-Lothian, and during its course in that county, flows mostly amidst green and naked hills, on becoming the boundary between the shires of Selkirk and Roxburgh, is adorned with woody banks, winds around fertile fields, and after furnishing the fulling-mills and other machinery at Galashiels with a plentiful supply of water, empties itself into Tweed about half-a-mile below that village. Cadon also, descending rapidly from high mountains, pours its pastoral stream into Tweed on the north. That beautiful river, during the short space of nine miles that it intersects this county, holds a placid and steady course, in a deep bed hemmed in by green banks mostly covered with lofty trees, except in a few places where it is interrupted by rocks or huge stones. The varying aspects of the surrounding hills, the venerable and vigorous woods, the cultivated or grassy plains, and the smooth or rapid stream, present a new and picturesque scene at every step the traveller advances. Nor is the scenery on Yarrow less romantic and delightful. Rising on the confines of this county towards those of Dumfries and Peebles-shires, it passes through two fresh-water lakes; one of which, especially, in extent and natural beauty, far surpasses any thing of the kind in the south of Scotland. They are separated by a narrow neck of level ground,
not

not above 100 yards in length, through which the water runs. The farthest, named the *Loch of the Lows*, is only about three quarters of a mile long, and little more than a quarter of a mile broad. The nearest, called *St Mary's Loch*, has a bend towards its south-west end, which will make its length about three miles. In a straight line it will scarcely measure so much, and its medium breadth will scarcely be half-a-mile. Their banks, in several places, are fringed with copse-wood. The mountains, which encompass them, and the brooks, by which they are fed, have a sequestered and wild, but not a bleak or rugged appearance. Yarrow, after leaving them, flows through dry and healthy sheep-walks, where little wood is to be seen, and few spots admit of cultivation, for eight or nine miles, when its channel becomes rocky and hollow, its windings more violent, and its current more precipitous. The hills, at the same time, ascend with a bolder elevation; their steep sides, to a considerable height, are ornamented with wood; stately trees hang over the lower banks, and grow luxuriantly on the plains; while a variety of bushes and wild flowers diversify and embellish the prospect. Ettrick takes a direction nearly parallel to that of Yarrow, but drains a country, of greater extent, more subject to rain, and more retentive of moisture. It consequently contains more water; and preserves its name after receiving the other. It can boast of few trees during the first twenty miles of its course; but its vallies are wider and fitter for cultivation than those of Yarrow. A little way above their junction, its sides are skirted with natural wood; its plains become more extensive and fertile, and are sheltered by plantations on the adjoining hills. After their junction, the united streams roll, often with destructive violence, through vallies equally rich, and adorned with similar plantations of thriving wood, about four miles into Tweed, washing in their course

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the bottom of a high bank on which the county town stands, and becoming for a mile the boundary of this county with Roxburghshire. Meggot and Douglas are the chief tributaries of Yarrow; the former is wholly in the shire of Peebles, and falls into St Mary's loch. Ettrick is augmented by Tima, Rankleburn, and several smaller brooks. Ale and Borthwick have their sources in this county. The former issues from a beautiful circular lake, about a quarter of a mile in diameter, called *Alemoor Loch*; and, from a small estate on its banks, the late Lord Alemoor, of most respectable memory, took his title. The latter rises on the southern extremity of this county towards Dumfries-shire; and its original nakedness is in a fair way of being soon removed by numerous plantations lately made both here and in the contiguous county of Roxburgh, which the Borthwick alternately bounds and intersects, and into which both these waters run.

CHAP.

CHAP. II.

STATE OF PROPERTY.

SECT. I.—*Estates, and their Management.*

THE greatest part of this county was once a royal forest, and a number of places are named from the trees or shrubs which grew around them, the animals by which they were frequented, or the sports which were practised in their neighbourhood. All appearances of a forest are now nearly effaced. There are not more than 2000 acres of wood in the whole county. And no beasts or birds of prey are to be seen, except sometimes a fox, or an erne from Loch Skene, a lake in the high parts of Dumfriesshire, towards the source of Yarrow water. Herons, hawks, and kites are not uncommon; and hares, partridges, and growse abound. The mountains and vallies, which formerly were covered with trees, are now mostly employed more profitably

profitably in feeding sheep, and producing corn; though there are considerable portions of both, which might be planted, much to the advantage of proprietors, and very little to the detriment of their tenants.

Taking a kind of medium between the two computations which have been given of its contents, this county may be supposed to contain 250 square miles or 160,000 acres; and allowing 12,000 of these to be in tillage, and occupied by woods, gardens, pleasure-grounds, and the sites of houses, there will remain 148,000 acres of pasture-land; which does not yield so much rent *per* acre as the pasture district in Roxburghshire, because a greater proportion of it is coarse and poor, and the sheep, though equally numerous according to the extent of ground, are smaller and less profitable. From the best information which I could obtain, it may be rated at 2 s. 9 d. *per* acre, the 8800 acres in tillage at 10 s., the 2000 acres in wood at 25 s., and gardens and pleasure-grounds at 20 s. *, making the whole rent of the county as under :

148000 acres in sheep-pasture, at 2 s. 9 d.	-	L. 20350
8800 acres in tillage, at 10 s.	-	4400
2000 acres in wood, at 25 s.	-	2500
1200. acres in gardens, pleasure-grounds, and the sites of houses, &c. at 20 s.	-	1200
160000	Total rent,	L. 28450

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* I have made very little alteration of Mr Johnston's valuation of the lands in pasture and tillage. For though some farms in the lower parts of the county are let above 4 s. *per* acre, a considerable proportion of them is fit for tillage, while large tracks, in the higher parts, where nearly three acres are requisite to maintain a sheep, cannot be estimated above 1 s. 4 d. *per* acre, from which 2 s. 9 d. appears to be a pretty just medium.

The

The valued rent of the county is L. 80,307:15:6 Scots, which, though greatly less than that of Roxburghshire in proportion to the extent of ground in each, is much higher in proportion to the actual rent. Of this valuation, L. 36,545, 11 s. 4 d. belongs to five Peers; one of whom, however, has no land, but draws a small revenue yearly in teinds, formerly drawn by the church. The remainder belongs to 37 commoners and the burgh of Selkirk. There are sixteen of these commoners, who have, each of them, property exceeding L. 1000 of valued rent, and only one of these is

The actual number of acres in tillage is computed, from the concurring opinions of gentlemen and farmers in different corners of the county; and the average rent *per acre* is guessed on the following grounds. Including one farm, which lets at 18 s. 6 d. *per acre*, there are about 2000 acres, which, at an average, let for 24 s. *per acre*, = - L. 2400
 Supposing the remaining 6800 to be only 6 s. *per acre*, = - 2040

The amount is - L. 4440

which is the merest trifle above 10 s. *per acre*; and even the late great increase in the rent of a few farms will not raise this average to 10 s. 6 d. nor the average of the pasture district above 1 d. or at most 1½ d. *per acre*.

The land in wood is valued at the low rate of L. 25 *per acre*, and the interest of that sum is stated as rent, which is 3 s. 8 d. less *per acre* than the average rent of similar land in Roxburghshire: and it must be observed, that though a great deal more of valuable wood is to be found there than here, yet more also has failed and become of no value.

It is difficult to ascertain either the quantity or the value of the land in gardens, pleasure-grounds, &c. The houses, gardens, and stack-yards in Selkirk and Galashiels occupy about 450 or at least above 400 acres. Exclusive of gentlemens seats, there are other 200 places of residence, to which about 300 acres may be allowed for these purposes. And an equal allowance may be made for the sites of houses and offices, the lawns, pleasure-grounds, gardens, and orchards of proprietors. If in this article there be an error, it cannot make a difference of L. 200 in the whole rent of the county.

is incapable of being a freeholder. The valuation of their whole property amounts to L. 34,380 : 11 : 10; that of the burgh is valued at L. 1053 : 3 : 4 : so that, including a mere trifle rated for a *feu-duty*, L. 8328, 9 s. is divided among twenty-one proprietors, of whom six are precluded from being inrolled as freeholders, either by the smallness of their properties, or the nature of their tenures. Of the proprietors, ten reside mostly in the county, and nine in its immediate neighbourhood; four have dwelling-houses where they may reside occasionally, and the rest are constant absentees. Many of those who do not reside, and some of those who do, employ factors to let their lands, receive and discharge their rents, examine and pay their accounts, and transact their country affairs. Particular days and places are fixed for receiving the rents of most estates, generally about three or four months after they become due. Greater indulgence is shewn to a few tenants with respect to time, but they are required to repair, with their rents, to the residence of their landlord or his factor. The resident gentlemen have all a greater or less quantity of ground under their own management, direct themselves the disposal of their pleasure-grounds and planting, and commit the cultivation of their fields and their marketings to bailiffs, here called overseers or *grievos*. Some of them farm the whole of their estates, and have leases of other lands. There cannot be less than 4000 acres occupied by proprietors, exclusive of the farms they thus possess. During the last 25 years, only seven estates have been disposed of; the largest of which was purchased by the heir of the family, by whom it had been sold a few years before. The valued rent of all these, added together, amounts only to L. 4340, 9 s. 9 d. Scots. Before that period, however, three pretty considerable estates were in the market, and, though they

fetches what was then thought high prices, there can be no doubt of their being now worth much more.

SECT. II.—*Tenures.*

THIS whole county, with very few exceptions, belonged either to the Crown, or to the Abbey of Melros. That part of it, which was appropriated to the Sovereign, or recognised as his patrimony, was occupied by his vassals at a moderate rent, until an act of Parliament in 1594 allowed him to alienate his lands; in consequence of which, these vassals obtained charters from him to their estates, on paying the former rents, with some small addition annually to the Crown *. All the lands, acquired from the church, are now possessed by Royal charters: And a very little part of the whole county is held by that kind of tenure, which resembles

* The following places pay *Crown-rents*, in consequence of their forming once a part of the Royal demesnes. Haining, Hartwoodburn, Brownmuir, Middlestead, Hartwoodmyres, Aikwood, Hutlarburn, Whitehaughbrae, Outer and Inner Huntlies, Langhope, Howford, Shaws, Helmburn, Baillielee, Dodhead, Reidfordgreen, Hyndhope, Deloraine, Cackrawbank, Anlehope, Gamecleugh, Deephope, Tushelaw, Berrybush, Corlee, Newburgh or Winterburgh, Gilmanleugh, Singlee, Easter and Wester Kirkhopes, Easter and Wester Fauldhopes, Carterhaugh, South and North Bowhill, Auldwarck, Newark, Mill of Newark, Fastheugh, Easter and Wester Kerhopes, Ladhope, Sundhope, Eldinghope, Eltrieve, Bowerhope, Corfeleugh, St Mary Loth of the Lowes, Kirkstead, Dryhope, Douglascraig, Blackhouse, Mountbenger, Catlack-know, Catlackburn, Glengaber and Shootinglees, Whitehope, Deuchar, Tynnes, Lewinshope, Hangingshaw, Broadmeadows, Foulshiels, Harehead, Yair, Peel, Ashiesteel, Williamhope, Elbank, Flora, Glenfax, Glenpot or Fawnburnhead, Priesthope, Sithope, Gaithope, Hollylee, Thornilee, Trinlieknows, Cadonlee, Fairniilee, Galashiels, Mosilee, Blindlee, Torwoodlee, Corfelee, Redhead, Whitebank, Newhall, Knows, Blackhaugh, Windiedoors, Cadonhead.

fembles a copyhold in England. There are, at present, thirty-two on the roll of freeholders, of whom eight have no landed property, though three or four of them have either retained or purchased *superiorities*, which give them an undoubted legal title to vote for a member of Parliament; and this roll can only receive an addition of six actual proprietors, as matters now stand.

CHAP.

CHAP. III.

BUILDINGS.

SECT. I.—*Houses of Proprietors.*

ONE of the Peers has a pleasant hunting-seat, where he sometimes resides for a few days in the sporting-season. Four proprietors have built excellent modern houses. Several old houses have been made snug and commodious by judicious additions and alterations, and others are easily susceptible of the same improvement. The numerous remains of strong towers, while they are monuments of the rude and fierce spirit of our ancestors, should fill us with thankfulness for the happy change which has taken place in the tempers and manners of the present age, from the secure protection of every right that is dear to men. In the whole county, there is but one ruin of a house possessed by a family in later times.

The offices, in general, are substantial, convenient, and capacious, all built with lime, and slated. In both the
houses

houses and offices lately built, elegance is united with utility.

SECT. II.—*Farm-Houses, Offices, and Repairs.*

THE farmers are, by no means, so well accommodated either with dwelling-houses, or offices; both being, in general, poultry and ill-built. Most of the dwelling-houses are of one story, low in the roof, badly lighted, and covered with thatch. The walls, however, are of stone and lime; and of late a few of these low houses have been slated. The offices are still more pitiful, meanly and rudely constructed, and awkwardly placed. Some stables and cow-houses are so low, as scarcely to admit horses and cattle of an ordinary size.

In the higher parts of the county, it is frequently necessary to give all the houses a new covering of rushes or *sprats* every year, to repair the waste occasioned by the tempestuous and rainy weather. The weight, thus annually accumulated, pressing upon the roof, forces it or the walls to give way, and often exposes both people and cattle to great danger. A happy change, however, is taking place in all these respects. There are a few houses of two, and several of one story, substantially built with good stones and lime, foreign timber, excellent slates, and sizeable windows and doors. The offices, too, are every way suitable, and commodiously disposed.

There is no occasion for any difference in the size of dwelling-houses in different parts of the county, as the tenants, every where, may have families equally numerous, and the same calls to shew hospitality. Yet, in those districts which are at the greatest distance from good inns, the houses are smallest, from a desire of rendering them warm and comfortable, and from a fear, that, by enlarging
their

their dimensions and raising their walls, they would be more exposed to the violent and piercing blasts so frequent in these bleak and mountainous regions. But, though houses were made larger and higher, this disadvantage might be avoided, by choosing a dry and sheltered situation, by placing the gable directly towards that quarter from whence comes the severest storms, and by joining to that gable some necessary building of the same height with the dwelling-house. In farms, where little or no corn is raised, a barn might still be useful, to hold wool and cheese in their seasons, and to serve various other purposes; and it might stand very conveniently above an open shed or out-house, where the ewe-milkers, farm-servants, and artificers, might carry on their respective works till the end of autumn, and where all the implements and utensils used in the farm, and even some of the fuel, might be deposited during winter. These two houses would make an admirable defence to a dwelling-house of two stories, if placed at the end most exposed to the wind and tempest: And stables, cow-houses, &c. might stand, either at the other end, or in some other more eligible spot.

In the lower parts of the county, where the farms are wholly or mostly arable, or where a considerable portion of land in tillage is attached to the sheep-walks, many farm-houses and offices are constructed on the same plan, and are much of the same size as those in Roxburgh-shire. Most of these were built at the sole expence of the proprietors. But, in some instances, in different corners of the county, nothing was furnished, but timber, lime, and slates; the tenants carried these from the sea-port or kiln, and paid all the workmanship, though they had only short leases, or rather no leases at all*. Some landlords allow a stipulated sum,

* This was done only by the tenants of one great proprietor. They placed

sum, others the prime cost of the materials, leaving the tenants to make the most of these meagre conditions, during the currency of their leases. Unless the leases are long and profitable, it cannot be thought that tenants will put themselves to any expence or trouble, except what is absolutely necessary to keep the houses habitable till the time of their removal. Proprietors mistake their own interest, in not giving their tenants commodious and substantial houses and offices. These are powerful attractions to all men of sound sense; and little can be expected, in the way of enterprise or judicious improvement, from those, who feel no desire of having themselves and their cattle conveniently and comfortably lodged.

SECT. III.—*Cottages.*

THE cottages, attached to farms for the residence of shepherds and married servants, are wretched habitations, dark, smoky, and insufficient defences against wind and rain. Other cottages, let by proprietors on longer or shorter leases to labourers and mechanics, are not entitled to much commendation. Being built, for the most part, by the first inhabitant, on a short lease at a trifling rent, without any expence to the landlord except the prime cost of the materials, which are by no means of the dearest and best kinds, the work is executed in a very superficial manner;

placed an implicit trust, not without reason, in his justice and generosity, and those of the gentlemen who manage his affairs. But the personal character of a proprietor or his men of business, whatever encouragement and security it may afford to tenants in particular cases, must only be considered as an exception to the general and well-founded rule, that landlords should bear the whole expence of rearing good houses and offices to their tenants, and receive an addition of rent equivalent to the expence incurred.

ner; and without frequent reparations they would soon become ruinous. Cottages, or rather small houses of a better order, are built on long leases or *feus**, granted for a certain premium as the value of the ground, and a small annual rent or feudal acknowledgment. The houses in Galashiels, the only village in the county, are mostly of the two last descriptions: and the striking superiority, both in outward appearance and in workmanship, of those built on long leases, is a strong recommendation to all gentlemen, who wish to see flourishing villages on their estates, to adopt that method, or to give *feus*.

In all inland counties, it should be a greater object, than it seems to be, with all proprietors and tenants, to provide decent and comfortable dwellings for married servants, labourers, and mechanics. Convenient and pleasant houses, besides being favourable to health, may induce many, who now rove from place to place, and change their masters and their habitations at every term, to settle, to marry, and to exert themselves for the support of their families, and may encourage both husbands and wives to be cleanly and neat in their persons, their tables, and their furniture, and to keep their children, their doors, and their gardens in good order. In all these respects, what can be expected, but discontent and disease, reluctant, careless, and slovenly exertions, from those who dwell amidst smoke and dirt?

* A *feu* is a perpetual right to the ground or tenement, for the payment of a stipulated price, and of an annual acknowledgment.

CHAP. IV.

MODE OF OCCUPATION.

SECT. I.—*Size of Farms.—Character of the Farmers.*

THERE are only three or four farms in the county wholly arable, or capable of being made so. None of these contains 500 acres, and only one of them exceeds L. 400 of rent. There may be about 24 or perhaps 26 other farms, whose stock and produce are divided more or less equally between corn and sheep. One-half of the remaining farms have nearly as much land in tillage as, in a favourable season, may yield a sufficient quantity of oats for the consumpt of their servants and horses. In the other half, comprehending almost a third part of the whole county, very little or no corn is raised.

The size of farms varies from 50 to 6000 acres. From 1500 to 2500 is thought to be a moderate size for a farm which is only fit for pasture, and a large size for one where there is a considerable proportion of arable land. One farm,

wholly arable, and put into excellent order at a vast expence, is sublet at the rate of 18s. 6d. *per* acre. But all land is let by the lump; none by the acre, except small pieces around Selkirk and Galashiels. The inhabitants of these two places possess from 1200 to 1500 acres at different rents, mostly from one to two guineas *per* acre. More may be given for a few small and select spots. The lesser farms, below 300 acres, which are not numerous, and most of which keep a few sheep, bring from L. 30 to L. 100 of rent. From that sum to L. 300 is the most common rent for larger farms, whether devoted wholly to sheep, or partly employed in producing corn.

The character of the farmers admits of much diversity. A few, from being shepherds, have risen with a fair character to rent farms of considerable extent, and retain the simple and homely manners, dress, and fare of their primeval occupation. But by far the most numerous class are sons of farmers, either in this or neighbouring counties; among whom, according to the difference of their natural talents and tempers, of their opportunities to mix with good company and receive information, and of their early habits, there appears much characteristic variety in point of behaviour, living, and managing their farms. Some of them are wonderfully tenacious of ancient practices; but their number is now much reduced. Others venture on innovations with slow and timid steps, but grow bolder by the experience of their own or their near neighbour's success. And several carry on improvements with a degree of spirit and skill, which is not easily surpassed, and which has abundantly repaid their trouble and risk; though there is much less scope here for ingenuity and enterprise than in Roxburghshire. In general, they all deserve the praise of being frank, communicative, and hospitable. Their tables are much better provided, than the appearance of their
houses

houses affords any reason to expect; and there are, in their looks and manner, a cordial welcome, and an urgency to partake of their meat and drink, which strongly indicate a kind heart. A few of them live in elegance and plenty, have a plain dinner well dressed and served every day, and a bottle of wine or a cheerful glass of punch for a friend. But none of them keeps a chaise, or a man-servant for any household purpose. Being all trained up from their infancy to ride, they themselves, their wives, and their children can manage a horse with some dexterity; and can climb steep mountains, either on horseback, or on foot, without much inconveniency. They are very sociable; and even the most recluse are loth to part, especially when they meet together at markets and fairs; but, of late, there have been few or no instances of their neglecting necessary business for the sake of their bottle, or companions, or indeed for any other enjoyment. Attempts to deceive and over-reach purchasers, though not wholly unknown among some of them, are held in utter contempt by the better sort; and, upon the whole, they are very punctual in fulfilling bargains, and making payments. Their chief defect is a degree of indifference for that kind of knowledge, which can only be acquired from books, or from more frequent and enlarged intercourse with mankind. Very few of them have hitherto become members of a public library at Selkirk, although they may be admitted on moderate terms: And very many of them discover no desire of mixing in any other society, than that of their near neighbours, or of those with whom they have business to transact. Could they be persuaded to read useful books, especially in the line of their profession, and to come more abroad into the company of those from whose conversation profitable instruction might be learned, they would store their minds with much valuable

luable knowledge, and find, in this acquisition, ample compensation for the trifling expence attending it.

SECT. II.—*Rent.*

THE farms in this county are taken, not by measurement, but according to the computations, made by the different offerers, of the number of sheep they will maintain, and the quantity of grain which may be sown on them with a reasonable prospect of an adequate return. Farmers have also respect to the nature of the soil, and prefer what is dry, sound, and healthy for sheep, and what brings corn of a good quality early to maturity. They also esteem lands, though producing coarse grasses, where sheep have an ample undisturbed range. For though it is reckoned much in favour of these useful animals, to settle and feed on little space, yet it is equally an advantage to them, especially where their food however abundant is not of the most nutritive nature, to have an extensive walk, where they are not liable to be frequently turned, by an awkwardly placed wall or by the shepherd's dog, from trespassing on the possessions of others. When forcibly restrained within narrow and irregular bounds, sheep are prevented from thriving so well, and becoming so soon in good condition, as they otherwise might. Hence a farm of this description, however excellent its pasture, will not bring the same rent in proportion to the number of sheep upon it, as another, of an inferior soil, which is more sizeable and compact. Regard is also paid to the situation of arable land; and it is of much greater value when lying all together, than when scattered in detached and straggling fields through sheep-walks.

walks. These circumstances render it impossible to fix any general rate, at which land is rented. The grafs eat by a sheep through the year is reckoned worth from 3 s. 6 d. to 4 s. whether it grows on five acres, or on less than one. But the quantity of land, on which a boll of grain is sown, varies, according to climate, soil, and local situation, from 5 s. to L. 3. A few spots around Selkirk, occupied as gardens or nurseries, are let about that sum *per acre*; but it has been already mentioned, that the more common rate of all the lands let by the acre is from one to two guineas, and the average will scarcely reach 30 s.

All rents are paid in money twice every year. Though Whitfunday and Martinmas are the terms specified in all leases, yet it is usual to delay exacting payment until the time of the two great fairs at Selkirk in April and in August. With this indulgence, it can be no great hardship on the tenants to pay what is here called *fore-rent*, that is, a full year's rent before they reap a crop. Their profits arising almost wholly from sheep, they sell their wool, their lambs, their cheese, their young wedders, and their cast ewes, before they make the first half-yearly payment of their rent, and they sell some of these articles the following season, before they make the second. The absurd exactions of *carriages**, *kain*, *dargs*, and other remnants of feudal manners, are still retained in some leases; but, in most cases money is accepted in lieu of them. I am sorry to add, that adstriction to particular mills, is, in very many cases, an unpleasant addition to the rent.

SECT.

* *Carriages* mean the carriage of fuel, corn, hay, &c. by tenants without payment for the proprietor. *Kain* is a certain number of tame fowls. A *darg* is a day's work, either of man or woman, as specified in leases. In some leases, a certain quantity of lint or tow is required to be spun.

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SECT. III.—*Tithes*

ARE quite unknown.

SECT. IV.—*Poor-rates*

ARE universally established, though the weekly collections in some parishes are very considerable. The sum annually levied by assessments amounted in 1791 * to L. 343 Sterling; and, as the number of poor was then about 140, many of them must have been able to earn something by working, and must have received occasional aid, from the collections made on Sundays, and from charitable neighbours. In this account, are not included the assessments levied from those parts of Stow and Innerleithen parishes, which lie in this county, nor yet the poor who may reside there. It may not be improper to take notice, that, in general, the poor-rates do not materially lessen the voluntary contributions, because these are suffered to remain under the management of the kirk-sessions.

SECT. V.—*Leases*.

THIS county being mostly pastoral, the leases are short. A few have been granted, for nineteen or twenty-one years, of farms containing a good deal of arable land susceptible of improvement. But, even for such farms, thirteen or fifteen

* See Stat. Acct. of Galashiels and Selkirk, Vol. II.; of Ashkirk and Ettrick, Vol. III.; of Yarrow, Vol. VII.; and of Robertson, Vol. XI.

teen years are more common terms, and nine for the county at large. The period of some is still shorter; and, on the estate of one great proprietor, there are very few or no leases at all. Yet such is the reliance on his justice and moderation, that tenants are rather desirous of occupying his lands, and scruple not to lay out money in improving their farms, and accommodating themselves with comfortable houses. I must, however, be permitted to regret, that the respectable character of an individual should give a kind of sanction to a practice, which, on every sound principle, must be considered, as the bane of agriculture, and a real loss both to the public, and to every proprietor who adopts it. It is a singular infelicity to any country, when the amiable manners of its sovereign, and the ease, plenty, and security, which subjects enjoy under his government, engage them to make an unconditional surrender of their rights, and entwine around their own necks the fetters of despotism. It is impossible to calculate, how soon and how deeply the evil, thus improvidently and tamely submitted to, may affect themselves or their posterity. And may not the possession of farms without leases be productive, according to circumstances, of consequences equally disagreeable to tenants or landlords? When a tenant dies, what security has he, that his farm shall descend to his family? And can it be expected, that he will risk any expence in improving it on such an uncertainty? Supposing him to live, does not his continuance in the farm from year to year depend on the will of his master? May not his master die, and be succeeded (especially on an entailed estate) by an heir, who shall construe every substantial melioration into an argument for an advance of rent? Or, allowing both proprietor and tenant to live, how soon may the carelessness of a servant in allowing cattle to destroy a hedge, or the levity of a son in cutting a stick or shooting a partridge, or the refusal of a friend

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friend to give a political vote, or the tenant's own indiscretion in speaking rudely to some favourite minion or pointer, procure his dismissal? It is, therefore, as clearly his interest, to have a lease, that he may be independent of such capricious treatment, as it is that of British subjects to be governed by King, Lords, and Commons, a known code of laws, and regular courts of justice. Nor are leases less advantageous to landholders; of which a stronger proof cannot be given, than the certainty, in the case to which I allude, of the proprietor, notwithstanding the merited prepossession in his favour, obtaining a considerable increase of rent, and giving greater satisfaction to his tenants, by granting them leases of a competent length, and freeing them from all extraordinary expence, with respect to their houses and farms. Should the *competent length* of a lease be asked, the answer is plain. It must bear a proportion to the advance of rent. For example, to every L. 100 of rent presently paid, let L. 2 be added for every year of the lease; making an addition of L. 42 on every L. 100 for a lease of twenty one years, of L. 30 on every L. 100 for a lease of fifteen years, and of L. 18 on every L. 100 for a lease of nine years*; devolving on the landlord all expence of building, excepting the mere carriage of stones and lime; leaving, to the tenant to determine the size of the houses, and inclosures, and the length of the lease; but binding him to a general system of management, whereby the land might increase in value, and the houses and inclosures might be preserved in excellent order. It would be an improvement on this plan, if the rise in the rent was not
to

* These examples are given merely as illustrations of the principle. The additional rent may be greater or less than is here mentioned, according to the nature and local situation of farms, their susceptibility of improvement, their ready access to manure, and a variety of other circumstances.

to take place for a few years; a clause, which, I am happy to understand, has found its way into some leases in this county, and which deserves commendation, as it keeps money in the tenant's pocket at the commencement of his agricultural operations, when he stands most in need of it. Whitfunday is the usual term at which leases commence. Tenants then enter into possession of the houses and the land in grass, but not of the land under corn, till the crop is removed from the ground.

SECT. VI.—*Expence and Profit.*

THERE is so great diversity in the nature and size of farms and in the mode of management, that an account of expence and profit can scarcely be given, which will apply to more than two or three farms in the county. In the few that are mostly or wholly arable, a small number of sheep are either kept or bought annually to be fattened; and young cattle are either reared, or old ones are purchased to consume the turnips. The portions of land in tillage, belonging to sheep-farms, are of such unequal fertility and extent, and subjected to such different treatment, with a view of accommodating either the family or the flock of the tenant, that it would be extremely difficult to make any general calculation of their real produce, and of the profits arising from a complication of causes and practices, from which the reader could derive entertainment or information. The pasture district is almost wholly stocked with ewes, either of the white-faced and long-bodied kind, or of the black-faced and short-bodied. This difference, in the manner of stocking farms, as well as in the kinds of sheep, occasions a difference in the sales and prices both of sheep

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and wool from the statement given in the Agricultural Survey of Roxburghshire. To ensure a plentiful store of food for the mothers and their lambs, it is usual, in several farms, to sell a certain proportion of ewes while great with young, from whence they are called *great-ewes*. In other farms, where provision is more abundant in the early than in the late part of the season, no ewes are sold till they bring up their lambs, after which those are picked out, who are most unfit for breeders, and in best condition for the markets. These are called *draught* or *cast-ewes*. In one or other of these ways, about one-sixth part of all the ewes on the farm is annually disposed of, the proportion of *great* and *draught-ewes* varying in different farms. It is expected that at least two-thirds of the ewes shall bring lambs yearly; and somewhat more than two-sevenths and less than one-third of all the lambs produced, are kept to supply vacancies in the flock by death or sales. On these principles, the expence and profit, on a farm capable of wintering 2000 sheep of the white-faced kind, will be nearly as under :

The rent, at 3 s. 6 d. <i>per</i> sheep,	-	L. 350	0	0
To 1200 old ewes, at 14 s.	-	L. 800		
To 380 do. two years old, at 11 s.		209		
To 400 do. one year old, at 7 s.		140		
To 20 tups, at L. 1, 10 s.	-	30		
2000		L. 1179		
Interest on this sum at 5 <i>per cent.</i>	-	55	4	0
Salving, at 4½ d. each,	-	37	10	0
Three herds, at L. 20 each,	-	60	0	0
Drains, &c.	-	15	0	0
Gross yearly expenditure,		L. 517	14	0

The

The produce or sales will be, after every allowance for mortality,

120 great ewes, at 14 s. 6 d.	-	-	L. 87	0	0
200 draught-ewes, at 11 s.	-	-	110	0	0
800 lambs, at 5 s.	-	-	200	0	0
1800 fleeces, at 2 s.	-	-	180	0	0
Cheese, tups, <i>udder-locks</i> *, and <i>morts</i> *,	-	-	50	0	0
Total produce,			L. 627	0	0

From which the farmer's profit appears to be, L. 109 6 0

but it may be greater, when the prices of wool and sheep are higher, when the mortality is less, and when the season is favourable to the feeding of sheep and of lambs. He cannot, in any season, sell more than a score of ewes above the calculation; but, when it is remarkably good, he may sell 80 more fleeces, and 100 or 120 more lambs.

Where no great-ewes are fold, the profit is rather larger.

Expenditure, as before, - - L. 517 14 0

The number of ewes will be the same as before, and their prices only 11 s. viz. 320

ewes, at 11 s. - - - L. 176 0 0

But the number of lambs must be greater, as those of the great-ewes are to be included;

hence 920 lambs, at 5 s. - - 230 0 0

There must also be more fleeces, at least 1900,

at 2 s. - - - 190 0 0

Cheese, &c. as formerly, - - - 50 0 0

Total produce, L. 646 0 0

which

* *Udder-locks* are the wool plucked from the udders, and *morts* are the skins of sheep and lambs who die. See p. 47. and 156.

which is L. 19 more than by the former statement, and shows the superior profit of not selling great-ewes, when the farm has sufficient food for them. The last article may likewise admit of a small increase, as more cheese will be made, and there will be more udder-locks: though this is rather problematical, as there will also be fewer skins of sheep who die.

The comparative expence and profit of the same number of black-faced sheep, will appear from the following statement:

Rent, as formerly,	-	-	-	L. 350	0	0
But the value of the stock must be less, at least						
1s. 6d. each on 1600 sheep, making L. 120,						
the interest of which must be deducted, and						
reduces the interest on the sum-total to	-			49	4	0
By using more tar, which is comparatively						
cheap, and less butter, which is compara-						
tively dear, there will be a saving of L. 7,						
10s.	-	-	-	30	0	0
The sums allowed for herds and drains, as						
formerly,	-	-	-	75	0	0
Total expenditure,				L. 504	4	0

The sales will consist of,

120 great-ewes, which, on account of the inferiority of						
their fleeces, will only sell for 13s. 4d.				L. 80	0	0
But the draught-ewes, by wanting their fleeces,						
will reach the same price with white-						
faced ones; hence 200 of them, at 11s.						
is as formerly,	-	-	-	110	0	0
Carried forward,				L. 190	0	0

Brought forward,	L. 190	0	0
The lambs, by being longer suckled, will fetch 1 s. 6 d. each more than the other lambs; hence 800 of them, at 6 s. 6 d.	260	0	0
But the fleeces of the flock cannot be estimated above 11 d. each *; hence 1800 fleeces, at 11 d.	82	10	0
And less cheese will be made, which will require a deduction of L. 12 or thereabouts from the last lumped article, reducing it to	38	0	0

Total produce, L. 570 10 0

which leaves only L. 66, 6 s. of profit to the farmer, being L. 43 less than is gained on a similar flock of white-faced sheep. The reader will perceive that the greater profit is to be wholly ascribed to the wool. And there are no ways of increasing the profit in the one case, which are not equally open in the other.

* At the average of $6\frac{1}{4}$ fleeces to a stone, this makes the price of the stone about 6 s. $2\frac{1}{2}$ d.

CHAP. V.

IMPLEMENTS.

ALL the implements of husbandry, which have already been described in the Agricultural Survey of Roxburghshire, are used in this county, except the snow-plough, the drain-plough, the cart with three wheels, the improved harrows, and the instrument for hoeing drilled crops. A thrashing-machine was brought into it, about the year 1792, but it was either never set agoing or soon given up. In 1796, a millwright in Galashiels made the first one that was actually employed, and it is found to answer extremely well. Three or four have been since erected; but their number cannot be expected to increase in a county where so little corn is raised.

There are no implements peculiar to it: The sledges, used for bringing home peats, and the *creels* or baskets, in which they and other articles are carried on horseback, being common in all hilly countries, where there are no roads for carts. Both here and in Roxburghshire, a kind of hoe is sometimes fixed to the small plough, instead of a coulter, for cleaning drilled crops, but it cannot answer in stony-land.

CHAP.

CHAP. VI.

INCLOSING, FENCES, GATES.

THE reader must be referred to what is mentioned in the Account of Roxburghshire with respect to these particulars, especially concerning the nature of different fences, and the manner and expence of executing inclosures. Great progress has been made, of late, in separating the arable from the pasture lands in the same farms, and in subdividing into equal fields what is subjected to the plough. Substantial stone-walls, without cement, about five feet high, and mostly with Galloway tops, are common in the higher parts of the county, not because thorns will not grow, but because it is difficult to preserve them while young from being gnawed, and often eat over by sheep during winter. They are found, in great luxuriance and excellent order, around Selkirk and Galashiels, and on several farms where there is much tillage; and have been
reared

reared to become good fences, without the aid of pales. Walls of turf or sod are annually raised in many places around those folds, in which sheep are confined during night, till the grain is cut and removed from the fields; the walls are then thrown down, and the space inclosed, enriched by the dung and urine of the sheep, is ploughed to bear a crop the ensuing season. Hurdles or nets are sometimes used, instead of walls, and removed to another portion of the field when one is thought sufficiently saturated, which may be thought to save expence, and get a larger quantity of ground thus manured: but when the prime cost of these, and the trouble of flitting them, are taken into the account; and when, at the same time, it is considered, that the more surface is gone over in this manner, the less dung it receives, and that the fods, by being exposed in thin walls to the drought of summer, are easily spread along the field, and converted into a fine and rich mould, such walls, on spots judiciously selected, may be pronounced, in many cases, an useful improvement. Walls of this kind, raised to protect young trees, are backed with earth like a mound, with short sticks, stuck in the top, in the form of a palisade.

Fences, when boundaries of property, are made at the joint expence of proprietors; when separating pasture from arable land, are sometimes done solely by the landlord, sometimes solely by the tenant, and sometimes mutually by both; and, when subdividing fields, are often but not always reared by the tenant alone.

Nothing particular deserves to be mentioned about gates, except a simple contrivance of three or four separate bars, made round, with a swivel and a ring or link at each end

to go upon a hook in the posts, instead of sliding into holes, which weaken the posts, and are apt to make them rot and fail. A little time is requisite for opening and shutting them; but while hanging, they are a strong fence, and they can be laid aside out of the reach of injury from cattle and loaded carts, and consequently, by a little attention, bid fair to outlast any gate.

CHAP. VII.

ARABLE LAND.

SECT. I.—*Tillage.*

IN proportion to the quantity of land in different farms that is kept in tillage, is the attention bestowed on ploughing. It is natural to expect, that a few spots in exposed situations, which can only yield poor returns, will not be managed and defended with the same care, as large fields, on the proper cultivation of which, the farmer's profit in some measure depends. In the one case, generally, the implements are coarse, the servants are unskilful, and their work is slovenly. In the other case, all the implements are constructed in the most approved and substantial manner, expert ploughmen are procured, the horses are carefully trained, and both masters and servants pique themselves on having their fields thoroughly tilled and neatly ridged.

Two horses, yoked abreast in the plough, are easily managed by one man. Three or even four, or perhaps two horses and two oxen, are used to break up new land, especially when its surface is rugged or covers large stones. Some steep places, where no strength of draught can make a furrow against the bank, are ploughed wholly downwards, the horses finding greater difficulty in dragging the plough up the hill without a furrow, than in bringing it down with a very deep one. It is evident that land of this description can never be subjected to a regular system of cropping, and that it is only broken up by good farmers, to receive manure and to be put in better order for pasture.

The size of furrows, the formation, breadth, and position of ridges, the season and the manner of ploughing for different crops, are all the same in this county as in the light lands of Roxburghshire.

SECT. II.—*Fallowing.*

Is never practised, except on land torn up from a state of nature, or in such a wretched condition at the commencement of a lease as to be unfit for turnips. In the one case, a complete season and much labour are necessary to bring it into form; and, in the other case, there is too little time, after the entry at Whitsunday, to procure manure, and to clean and dress fields for turnips with any prospect of a profitable return.

In fallowing new land, the first object is to turn over the sward so completely as to ensure its rotting, and to dig up such stones as lie in the way. After remaining in this state through winter, it is cross-ploughed in spring, and all stones, which obstruct the plough,
are

are carefully loosened and removed. Two or more ploughings are given during the summer; such stones, as formerly escaped notice, are taken away; and the field is repeatedly harrowed, and formed into ridges. If it is very manageable, and not extensive, all this may be done, and manure applied in time to sow turnips broadcast. But more frequently it requires so many ploughings, so much other work, and such a quantity of lime or marl, that farmers, with difficulty, prepare even a few acres properly, by the beginning of the second winter, for a crop of oats the following spring.

SECT. III.—*Rotation of Crops.*

IN the higher parts of the county, there are very few turnips, and no peas. It is impossible to observe a regular rotation, where oats occupy at least $\frac{6}{10}$ if not $\frac{9}{10}$ of all the arable land, where the small remainder is divided pretty equally between turnips and barley, and where red clover is rarely if ever raised. There is, however, every appearance of turnips becoming more general; and farmers may be tempted to sow red clover, although they cannot protect it from sheep during winter, and can only reap advantage from it for a season, not probably as a hay-crop, but at least as enriching the pasture, till the white clover becomes more abundant. They are all sensible that turnips and clover are desirable both for their flocks and their fields; and this conviction seems to be gradually overcoming their fears of attempting to cultivate these crops, and strengthening their desires of having more of their arable ground substantially inclosed.

In other sheep-farms, which raise more corn, the most judicious

judicious and profitable rotation, that has been adopted, is turnip, barley, clover, and oats, in equal proportions. And enough of dung, with the help of a little lime or marl, can be furnished annually for carrying it on, while the whole land in tillage does not exceed 60 acres. Where it is more extensive, the clover is allowed to remain two seasons, or a crop of peas and a second of oats, are added to the rotation.

Farms, mostly or wholly arable, are managed much on the same plan, but on a larger scale. Tenants, for want of dung, find it their interest, after enriching a field with manure, to leave it in pasture, till it can be tilled with a reasonable prospect of being dunged again in the course of a gentle rotation. Fields are thus thrown into pasture, not in any regular succession, but merely according to convenience, local situation, and the sufficiency of their fences. Other fields are subjected to the rotation already mentioned of turnips, barley, clover, and oats, with this difference, that generally a greater or less proportion of peas is substituted for a part of the black crops, and that some of the land, which should be in barley, is sown with oats. Other rotations are also followed equally agreeable to the rules of good husbandry, which are understood to consist, in an alternate succession of white and black crops, in introducing a drill crop as often as is necessary to keep the land free from weeds, and in giving it such a competent quantity of manure, during the course of every rotation, as will enable it to produce good crops of the several grains, without being much impoverished. I mean not, however, to insinuate, that these rules are observed by all the farmers in this county, in the cultivation of their fields. Some of them seem to think, that there is no occasion for resorting to a black crop while their lands can bear a white one, and that it is impossible to exhaust a kindly soil after it is well marled.

led. Others, who are sufficiently enlightened to perceive the absurdity of such maxims, have not been able to emancipate themselves altogether from former prejudices, and cannot resist the propensity, which they were early taught to foster, of taking two white crops successively from land in excellent order. But these practices are gradually giving place to a more rational and profitable system.

SECT. IV.—*Crops commonly cultivated.*

THE crops most commonly cultivated are, oats, barley, peas, turnips, and potatoes.

The different kinds of oats, according to their prevalence, may be thus ranked, viz. The *red*, the *white*, the *Angus*, and the *Dutch*, all of which have already been described. In high and exposed situations, the *red*, beyond all controversy, deserve the preference; and there are few fields in the whole county, where they may not contend for it. The *white* are chiefly sown where there is some shelter, and a degree of mildness and warmth in the climate. Besides these advantages, the *Angus* require a good soil. The *Dutch* are now mostly confined to a few sheltered spots, where the *white* and *Angus* might be too late of ripening, and will probably soon be disused altogether. *Church's* oats, and the *black* oats have not been much tried. There are not many fields fit for producing the former; but the latter might be sown to advantage on several parts of different farms, where the exposure is cold, and the ground more or less retentive of moisture.

Big,

Big, a native of the county, is the only species of barley, that will arrive at full maturity, and yield a tolerable increase in a very large portion of the arable land. It admits of being sown late in the season, and therefore is less apt to suffer from those annual weeds, which in spite of every precaution spring up in a thin and light soil. Yet it ripens early and equally; and is a surer and weightier crop, where there is a deficiency of climate, than the other kinds cultivated in the lower and warmer farms. There the *long-eared* barley is most common and most productive; although it may be doubted, whether *big*, growing more quickly and being sooner ready, might not make a better nurse for clover, and whether its greater quantity, the equality of its grains, and its having little refuse, might not compensate for its inferiority of weight, and of produce in pot-barley or meal. But there may be reason, on the other hand, to doubt, whether it retains all these qualities unimpaired, when sown on land highly enriched with dung and marl or lime, and whether it does not then acquire a luxuriance unfriendly to the earliness and equality of its ripening.

Battledore, or *sprat*-barley, was brought from Yorkshire in the year 1790, by George Currie, Esq; when he had the farm of Carterhaugh, about 3 miles above Selkirk. It is middle sized, rather small, plump, and remarkably thin in the skin, which makes it very heavy and productive in proportion to the measure, both in meal and in pot-barley; and, being also very equal, it will probably malt well. It has the peculiar advantage of sending forth a greater number of branches or stalks from one grain than any other kind of barley, on which account about $2\frac{1}{4}$ firlots of seed are enough for an acre, or even two firlots if the land be in excellent order. But it must be sown at least three weeks earlier

earlier than even the long-eared barley; and after all, it may be later of coming to maturity. The grains, too, are extremely apt to drop from the ear, and the heavy ears to snap from the brittle straw, in a high wind, or when the sheaves are tossed to or from the cart.

Though less peas are sown now than formerly, yet a greater quantity is annually raised. In the higher grounds, where the lateness of the climate, and the variableness of the weather made them precarious and unproductive, they are mostly given up. But, in the lower fields, where there is more genial heat, and where the soil is kindly and enriched by lime or marl, they grow luxuriantly, are extremely prolific, unless perhaps they run too much to straw, and become ready for the sickle, while the days are somewhat long and the air dry to forward their preparation for being safely stacked. In these cases, they are a lucrative and meliorating crop; they fetch a good price; their straw makes excellent fodder; their rapid growth, their tendency to cling together, and their weight bear down and crush all weeds; and the stalks of these weeds and the stubble of the peas, reduced to a state of corruption, form excellent manure for the ground.

The average quantity of these three grains, sown upon an English acre, is nearly as follows: Oats, $\frac{8}{10}$; Barley, $\frac{5}{10}$ or $\frac{11}{10}$; and, Peas, $\frac{7}{10}$ of their respective bolls. Their average produce, on the same acre, will be, Oats, $3\frac{1}{2}$ bolls; Barley, $4\frac{1}{2}$ bolls; and, Peas, 4 bolls. The times of sowing and of reaping depend much on seasons and the state of different fields. The dryness and warmth of the soil make the blade to spring and the corns to ripen so quickly, that farmers, in most cases, are rather anxious for a favourable than for an early seed-time.

It

It is unnecessary to repeat much of what has been already observed concerning the culture of turnips and potatoes, as every thing, relating to both of them, is managed in the same way as in Roxburghshire. Twenty years ago, there were scarcely ten acres of turnips in the whole county. Those, raised in some corners of corn-fields in different farms, were generally destroyed by the sheep; and the few ridges, annually sown around Selkirk and Galashiels, were greedily devoured by children and curious people, as soon as the bulb was formed. In spite of these obstacles, the culture of them has become gradually more general, and is still rapidly on the increase. Attention, care, and good fences protect them from sheep; and the depredations of idle boys are less now, that their curiosity is fully gratified, or at least are not so perceptible in numerous and large fields, as they were in small detached spots. Turnips are here rather a more certain crop than in the sister county, and nearly as weighty. More of them are applied to rear and improve the condition of cattle and sheep, than to fatten either for the shambles.

Potatoes found their way into this county some years before turnips; though I cannot learn that they were planted, except with the spade, till the year 1772 or 1773, or that any kind was known, except the *red* and a few *kidneys*. About that time, some of the common *white* kind made their appearance, and in a few years entirely supplanted the others. About that time, too, they began to be dropped in every furrow made by the plough, which practice was tenaciously retained, till the larger returns procured by planting them in every third furrow, or in ridges at the distance of twenty-seven or even thirty-six inches, and the obvious advantage of getting the land cleared and pulverised by the plough, gradually obtained, for these two last

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methods,

methods, a decided preference. They became quite common, through the whole county, about the 1778 or 1780. By that time, a change of seed was brought from Langholm; *red-nebs* were introduced; potatoes constituted a chief article of food for a great part of the year; and ever since, enough of them has been raised to supply the consumption of the inhabitants, and to furnish a considerable quantity of seed to the contiguous parts of Mid-Lothian and Tweeddale.

It is still the general practice to put dung only into that furrow on which the potato-set is to be planted, and to make the plough cover both the dung and the set with fresh earth. But though this bids fair to produce the most luxuriant and largest crop, it is liable to several objections. The potatoes, by growing immediately above the dung, are apt to blister and become scabrous by its heat: the dung, confined during a season to one furrow and that occupying scarcely a third part of the whole field, cannot be brought to mix and incorporate easily with the other two parts, without cross-ploughing and harrowing the land: and, by being applied only in spring, it favours the growth of weeds, among the potatoes, which cannot be destroyed without much trouble and labour. All these inconveniences are avoided by laying the dung equally over the whole field during winter, and ploughing it instantly down. The force of its heat is allayed, by its being spread over a wide extent, and by its lying so long and so equally among cold earth: A great many weeds, springing early up through its influence, are checked and killed before the potatoes are planted: The soil is mellowed, more easily wrought, and dressed at less expence: And the crop, if not so prolific, is of a better quality. The greatest produce of an acre, which has fallen within my knowledge, was about 35 returns of the seed. About $9\frac{1}{2}$ firlots planted, yielded 330,
or

or $82\frac{1}{2}$ Linlithgow bolls. But 20 returns of 10 firlots planted is a good, and 18 returns an average crop.

The curl only made its appearance here about two or three years ago, and has not hitherto made any alarming progress. An ingenious neighbour has suggested, that it may be in some measure prevented, and potatoes brought earlier to maturity, by planting only one set, cut from the top * of each potato. From thence always issues the first and strongest sprout made by a potato in spring, which led him to infer, that it would grow more quickly and vigorously in the ground than any other part of the potato. And he shewed me in his garden a bed, all planted the same day, the one half with top-sets carefully kept apart, and the other with sets from the root and sides. Both were luxuriant and free from curl, but the top-sets were farthest advanced and promised to be ready, at least three weeks, before the other.

The relative proportions of these different grains may be nearly thus. Oats occupy rather more than one half of all the land in tillage or about 4800 acres. The remainder may be divided into four equal parts; three of which may be allotted to turnips, (including potatoes), barley, and clover, and the fourth to peas, and those crops which are not so commonly cultivated.

* The *top* is the part farthest from the root or tendril, by which a potato is connected with the rest of the cluster.

SECT. V.—*Crops not commonly cultivated.*

A FEW acres are sometimes devoted to wheat. It is managed in the same manner as in Roxburghshire, and yields good returns; but is, in several respects, hurtful to the ground.

Astonishing crops have been raised of rye; but there is little demand for this grain, and it is nearly as fore upon land as wheat. The straw of both sells at a high price.

Beans are sometimes, though very seldom sown among peas. A few rows are also to be seen, in some fields, both of them, and of cabbages. But there is very little soil in the whole county of a sufficient depth for raising either of these, or carrots, though all of them have been produced of an excellent quality on particular spots.

The soil is much better adapted to the cultivation of yams. They have been tried in several places, and promise to succeed extremely well. From their large size, a greater number of them than of potatoes is requisite to plant an acre; but their produce, in some instances of which I have heard, has been twenty-four or twenty-five returns of the seed. Their culture is the same with that of potatoes, but their growth is rather slower, and they should be put sooner into the ground.

There can be no doubt that Swedish Turnips would thrive well in the whole arable district. Some of them have weighed a Dutch stone. But, without a confederacy of neighbouring farmers to raise fields of them every year, they cannot force their way into general use; and it is not
clear

clear that they merit so much attention. They are eat, with prodigious avidity, by every passenger, especially in spring: and though cattle are equally fond of them, they are by no means so meliorating a crop to the ground, as common turnips.

Since the improvement of land by lime and marl, tares grow luxuriantly, and are sown on many farms to be given green to horses during summer. This laudable practice is daily gaining ground. And it seems highly probably that, in a very few years, every farm in the county will have some portion of its arable land, in tares for summer provision to the horses, and in yams for winter provision to the milk-cows.

No fields of lint are raised, but a small quantity of it is annually sown on most farms by housewives and cottagers.

It is not easy to form a conjecture concerning the number of acres occupied by these various crops. But they are so few, that when added to the fields annually in peas, their joint amount will not exceed what is allotted to them at the close of the preceding section.

CHAP. VIII.

GRASSES.

SECT. I.—*Natural Meadows and Pastures.*

SECT. II.—*Artificial Grasses.*

SECT. III.—*Hay-Harvest.*

SECT. IV.—*Feeding.*

CONCERNING the first three articles, very little remains to be added to what is already stated in the Account of Roxburghshire. In proportion to the extent of the two counties, the nature, the quantity, and the manner of making meadow-hay, are very much the same; and it consists of the same common grasses. Nor is there any material difference in the kinds of artificial grasses, the proportions of each sown upon an acre, the quantity produced, the management of hay, or the form and thatching of haystacks. Perhaps it should be mentioned, that yellow clover is rarely if ever sown.

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From the small quantity of land in turnips and clover, and from the proportion of these which is given to sheep, it must be obvious that few cattle can be fed. Yet some of the older milk-cows on different farms, and even such young ones as run more to beef than to milk, and several oxen either reared in the county or purchased in the neighbourhood, are annually fattened, and are supposed to yield an ample profit on their value when put upon clover or turnips. There are several grassy fields on the banks of Ettrick and Borthwick waters, much fitter for black-cattle than sheep. These, however, are employed more in rearing than in feeding cattle; and it may be safely affirmed, that the number reared yearly greatly exceeds those which are fattened. If some profit did not arise from bringing up both young cattle and horses, many farmers would have a very scanty subsistence, whose stock consists wholly of black-faced sheep, or who pay a dearer rent than 3 s. 6 d. for the grass eat by every sheep.

Some time ago, cattle were grazed during summer, when a year old for 12 s. or 15 s., when two years old for 18 s. or 21 s., and when three or more years old for 25 s. or 30 s. All these prices are now advanced, year old cattle to 18 s. and even to 20 s., two years old to 25 s. some to 28 s., and all older cattle from 35 s. to 40 s. and even to 42 s. The summer's grass of a horse, too, has risen from 40 s. to 50 s. Taking these rates for an average, and allowing 15 s. as an advance of price for the winter's maintenance of a heifer or bullock, and two guineas for wintering a young horse, a farmer, who can bring up a dozen of the former, will add L. 27 yearly to his profits, and four of the latter will add about L. 18 more to them, besides what he may gain by his own judicious management, in selecting good breeds, improving their size and shape, and disposing of them at an advantageous time.

A few turnips have been carefully saved till spring to fatten early lambs. Sheep, too, are not unfrequently put upon them in the beginning of winter, and sold to the butcher, in a regular succession, as they become fit for the shambles. But the chief use of turnips, and indeed of clover-fields also especially in the higher parts of the county, undoubtedly is, to prevent or remove diseases, to make up lean sheep, to preserve others from falling away, and to keep the whole flock in a thriving condition.

CHAP. IX.

GARDENS AND ORCHARDS,

IT cannot be expected, that, in a county so small and so devoid of towns and villages, there should be gardens and orchards, producing pot-herbs and fruits for sale. But all the common and several rare vegetables for the kitchen, and those fruits for the table, which are found in similar climates, are raised, of an admirable quality, in the gardens of the resident gentlemen. These, in general, are kept in excellent order, and some of them are laid out with good taste. The adjoining shrubberies, likewise, are pleasantly disposed, and exhibit greater variety of plants than could be expected from their elevated situation. The beauty of some pleasure-grounds is heightened and animated by Tweed flowing along in a gentle current, or rolling in awful majesty. While those around Haining, embellished by a natural lake of considerable extent, and by clumps, detached trees, and shrubs scattered up and down and diversified with wonderful felicity, deserve to be particularly

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mentioned, as attracting the notice and admiration of travellers. All the farmers have gardens; but in some places, the soil and climate will bring nothing to maturity, except a few hardy vegetables; in most places, gardens do not merit much attention, and do not receive even the little that they merit; yet there are instances, though by no means numerous, of their being managed with skill and care. Much more can be said for the gardens belonging to tradesmen, cottagers, and the inhabitants of Selkirk and Galashiels. Many of them are neatly dressed, yield a profusion of useful vegetables, and are ornamented with shrubs, flowers, and bushes, bearing the smaller fruits.

There are few orchards, most of the fruit at gentlemen's tables being raised on walls, or on espaliers and standards in their gardens. Many of them have small nurseries for supplying themselves with young trees; and there is one at Selkirk, where a few plants of various kinds are reared for sale.

CHAP.

CHAP. X.

WOODS AND PLANTATIONS.

IN stating the number of acres in wood at 2000, I have followed Mr Johnston. The best information, which I could collect from the conversation of gentlemen and farmers in different corners, made it rather less. But the difficulty of ascertaining the real extent of the many small and irregular clumps, corners, banks, and even narrow belts, sufficiently accounts for the trifling difference; and I thought it safer to trust to the computations of a man, whose professional knowledge is entitled to respect, than to the more vague conjectures of numerous individuals.

The greatest part of the wood consists of Scotch firs, the largest half of which was planted above 25 years ago. Several trees, felled from time to time, were sawed into planks from fifteen to nine inches broad, and from twelve to twenty feet long; and many others, equally large, are now
ready

ready for the axe. Those, which are cut down to allow space for the rest to grow uncumbered, here not improperly called *thinnings* or *weedings*, while young are fit only for the fire; but, at twelve years old, especially on kindly soil, are used for pales and similar purposes.

Several hundred acres are occupied by other trees more valuable though of slower growth, particularly oaks, ashes, elms, and planes, many of which have only been lately planted, though not a few are of a great age and large size. Oaks have frequently been used, whose trunks measured from 7 to 8 feet in circumference, and contained, according to their length, from 18 to 40 feet of timber, besides nearly as much in the other parts of the trees. Instances might be given of a few much larger. I measured one, whose circumference 3 feet above the ground was about $9\frac{1}{2}$ feet; another only three or four inches less, and a third $7\frac{1}{2}$ feet. The two first are at Fairnilee, and one of them close by the ground is about 13 feet 9 inches. The trunk, being 7 feet high, contains only about 38 feet of wood, but proceeding to a considerable height, after sending forth its lowest branches, with little diminution of circumference, and having several large arms, there must be at least 80 feet of excellent timber in the whole tree. Ashes very commonly are five or six feet round, and have from 20 to 30 feet of wood. One, at Yair, measures 12 feet 9 inches at the bottom, but is divided into two clefts about a foot above the surface of the ground. Another, there, is 8 feet 2 inches at the height of 5 feet, and has an upright stem of 12 feet, which consequently contains no less than 48 feet of timber; and the whole tree, having considerable shoots and branches, cannot be estimated below 80 feet. I have measured several others from 7 to $8\frac{1}{2}$ feet, and one at Sunderland-hall above 12 feet, but none that has nearly as much wood. Elms are fully equal in size to
ashes.

ashes. Two of them, at Yair, measure each above 13 feet round, at the surface of the ground; one of them at 6 feet above it, is 11 feet 9 inches, and has a straight trunk of 12 feet; the trunk of the other is 9 feet in length, and its average girth is 10 feet 4 inches: and both together must contain from 260 to 300 feet. There are several lesser elms both there and in other parts of the county, which run from 5 to 8 feet in circumference, but vary very much in length of body and quantity and quality of timber. No trees are so luxuriant and shapely as planes. They grow tall, straight, and large, their branches spread thickly and equally, and they have a full and rich foilage. At Torwoodlee there is one, which measures, where it appears above the ground, 13 feet 7 inches in circumference, and, at the height of 20 or 24 inches, separates into two clefts, one of which is 9 feet 4 inches, and the other 9 feet 1 inch round. Both taper so gently for 12 or 15 feet, that the timber in them must be about 120 or 130 feet, and there may be about 50 or 60 feet more in the rest of the tree. Several other planes in the county are remarkable for height, size, and beauty.

Interspersed among these are, in different places, many beeches, larches, mountain-ashes, birches, different kinds of willows, limes, and some beautiful hawthorns. A fine beech, near Galashiels house, deserves to be noticed, not so much for its size, being little more than 6 feet in circumference, as for the cleanliness and length of its stem, which cannot be less than 26 feet, and for the number and richness of its hanging branches. Near it is a larix, $9\frac{1}{2}$ feet round at the base, 5 feet 8 inches at the height of 6 feet above the ground, and 5 feet 1 inch at the height of 12 feet, which consequently will stand an average of 5 feet for 24 feet high, and must contain $37\frac{1}{2}$ feet of wood. It is surpassed in tallness, straightness, and quantity of wood by
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one at Haining, which is 11 feet 5 inches at the bottom, and 6½ feet at the height of 6 feet, but seems to taper so quickly that it cannot be allowed a larger average for 24 feet in height than 5 feet or at most 5 feet 4 inches round; though the top of it, above that height, is of considerable size and value; and the tree, upon the whole, stands unrivalled in this part of Scotland. The other trees, especially the red fallow, thrive well and arrive at great perfection. And every tree, mentioned in the Account of Roxburghshire, is also found here. The prices of different kinds of timber are likewise substantially the same.

CHAP.

CHAP. XI.

W A S T E S.

THERE are no commons in this county; and no part of it, either from neglect or mismanagement, can justly be called *waste*, except perhaps a space of nearly 300 acres, which is appropriated for pasture to the horses and cows belonging to the burgeses of Selkirk, and for thin fods to cover the roofs of their houses below the thatch. It is easy to conceive, that a soil, thus employed for a long course of years, must have made a considerable progress towards sterility, and that the interest of the burgh, to whom it belongs, as well as of the public at large, strongly dictates the immediate abolition of this pernicious practice, and the cultivation and improvement of the land by inclosure, tillage, and manure. The prejudices, clamours, and even hardships of individuals, should not be allowed to obstruct the solid and permanent melioration of a country.

CHAP.

CHAP. XII.

IMPROVEMENTS.

SECT. I.—*Draining.*

ALTHOUGH the arable land, in general, is naturally so dry, or slopes so equally, as not to require drains, yet there are several spots on cold impenetrable till, which the greatest care and attention, and the most skilful and costly drains, can scarcely reduce to a manageable state. In such cases, the drains, being made through hard till, or shelving rocks, or huge shapeless stones, must cost, according to the difference of their width and depth, as much as the dearest drains in Roxburghshire. Let it be mentioned, for the honour both of proprietors and tenants, that many of them have carried and still are carrying forward expensive drains with great spirit and success, by which a new and rich appearance is given, not only to marshy places, but also to valuable

valuable fields below, which were injured and defaced by the water in rainy seasons, when denied a natural and free vent, either overflowing or springing up in them, and destroying the crops. This affords a happy presage that the little, which remains to be done, will be speedily effected.

Open drains, like those in Roxburghshire, have of late become very common in sheep-walks, and are rapidly increasing. One farmer some years ago made upwards of 8000 * roods of them, at his own expence. An incredible number of them have since been made in different parts, which shews the general sense entertained of their utility. At the same time, it has been objected to them, " that the " ground, as it becomes drier, is more infested with moles, " and that the new earth, thrown up in mole-hills, and afterwards spread either by accident or intention, produces " grass very hurtful to sheep." This observation I found on the margin of a report transmitted to me, and I transcribe it, because it is confirmed by some farmers, who allege that even the grass, springing up quickly from the fresh earth cast out of the drains, is the cause of diseases, especially where there is a mixture of moss with the soil. The dreaded mischief, however, I should apprehend, may be prevented by using a few timely precautions: Let landlords and tenants make a general agreement to destroy all moles: let mole-hills be spread immediately over as wide an extent as the shovel can reach,—and above all, let the stuff dug out of the drains, instead of being laid in a kind of mound on its lower lip, be thrown to a greater distance and afterwards scattered over the field, and the sods carried to fill up holes or cover spots bare of soil. The influence of

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* Mr Johnston, p. 20. A rood is six yards, and costs about 3-4ths of a penny, or four of them costs threepence.

the fresh earth, being thus diffused over a larger surface, cannot any where be so strong as to produce noxious effects : The sides of drains will be less apt to give way, when relieved from the pressure of sods and earth, and of sheep attracted by their sweet grasses : And drains will not be so readily choked, by the accumulation of particles, stones, and clods, forced down from the mound, in changeable weather, by the action of the air or the feet of sheep. The extirpation of moles is an important improvement in sheep-farming : and, as it does not fall under any part of the plan prescribed by the Board of Agriculture, I shall here take the liberty of recommending it to public notice. One great proprietor in this county has contracted with a company of mole-catchers, to free his estate from that destructive animal for a number of years, at a certain rate according to the measurement of the lands. But this laudable attempt must be rendered, in a great degree, abortive, unless it is adopted by contiguous proprietors, as the moles from their estates will soon overrun the fields which have been cleared. A general combination, therefore, among all landlords and tenants in Great Britain, is necessary to exterminate this subterraneous enemy : and surely the mischief, which it occasions in grass and arable lands and still more in gardens, should unite all, who are liable to suffer from it, in some common measure for their mutual defence. There is, indeed, something ludicrous in proposing a national league against moles ; and perhaps the scheme, on such a large scale, may be both absurd and impracticable. But the same purpose may be answered, though not so completely, by a number of similar combinations among neighbouring proprietors and farmers. If they were entered into and attended with success in one district, they would gradually become general ; and they would at least lessen

lessen though they might not entirely prevent the depredations of moles*.

SECT. II.—*Paring and Burning.*

Few places in this county have a sufficient depth of soil for being pared and burnt, and most of these places want climate to bring a crop to maturity, except in a very early season. The practice has never been general here: very little land has been hurt by it: and it seems now to be wholly given up.

SECT. III.—*Manures.*

DUNGHILLS are here made and used in the same manner as in Roxburghshire. Great attention is paid, of late, to collect and preserve dung; and in different places to form composts. Marl is mixed with moss; and lime with earth, weeds, and the stuff dug out of ruins, or gathered from roads.

Lime is chiefly used in the north-east part of the county, and brought from Middleton in Mid-Lothian, which is sixteen miles from the nearest, and not less than thirty from some places whither that manure is carried. From six to eight

* By some plan of the same nature, rats and other vermin might be suppressed, or rendered less numerous and ruinous to grain. It might also be extended to diminish the havoc made by pigeons, crows, sparrows, and other birds, among corns, when newly sown, and while advancing slowly to maturity.

eight carts of three bolls* each is the common allowance for an acre. Some do not lay on so much. There is reason to believe that the use of lime to any considerable extent as a manure was first introduced by the Reverend Mr Alexander Glen †, now at Dirleton, while he was minister at Galashiels from the 1757 to 1769.

During that period, the late Lord Alemoor drained a morass, on the confines of Roxburghshire ‡, and brought considerable quantities of marl to different fields, which still retain the benefit of it. This example, however, was not followed by those who had marl in their estates or farms; and it could not be followed by others, till marl was exposed to sale about the 1772 at Whitmoorhall § in Roxburghshire, within three miles of lands belonging to the burgh of Selkirk and its burgessees. From the pits there it was carried to different farms at the distance of seven or eight miles. About the same time, marl was dug on the estate of Sintoun, and soon afterwards on other estates in that neighbourhood, but the use of it was either confined to the tenants, or the sale was not extensive. It is only within these very few years, that morasses were drained, and marl taken out of them, except on the very extremities of the county; and in none of these more central places is it open for sale. When Mr Currie left the farm

* The boll is four Linlithgow firlots, and costs 1 s. at the kiln, See p. 139.

† He was likewise the first, or amongst the first, who drained and fallowed land, straightened ridges, and made other improvements in husbandry.

‡ Close by the *Hairmoss* toll bar, on the road from Selkirk to Hawick. The marl was brought to Haining three or four miles distant from the pit. Before his time small spots had been marled at Brownmuir and around Selkirk.

§ See page 135.

farm of Carterhaugh, and purchased the lands of Greenhead (in Roxburghshire) about a mile east from Selkirk, he had the spirit to buy and to drain, at the vast expence of L. 1000 Sterling, a small lake full of marl, lying between his estate and that burgh; which has furnished him with abundance of that useful manure for all his own fields, and a vast surplus to supply his neighbours in this county. His marl and that at Whitmoorhall are of the richest quality, and sell this year (1797) at 1s. for the single-horse cart, which is supposed to contain two bolls or sixteen cubic-feet, but the proprietors do not strictly confine purchasers to that measure. The same quantity is laid upon an acre as upon the light lands in Roxburghshire. Farmers have found, from experience, that less than forty bolls is of little avail, and they seldom give more than sixty. Instances occurred sometime ago, of their greatly exceeding that quantity, but there is not much danger now of their putting themselves to such unnecessary expence and trouble *.

Lime

* I transcribe the following note, with the alteration of a few immaterial words, and the omission of others, from the margin of one of the original reports, as containing matter worthy of public attention.

" SHELL-MARL, a fossil substance used as a manure, is found in great quantities, in almost all the mosses (which have formerly been lakes) in the south parts of this county and in the neighbouring county of Roxburgh. This substance has evidently been produced from the accumulated remains of immense quantities of fresh-water snails; and must therefore consist, partly of animal matter from the bodies, and partly of a pure calcarious earth from the shells of these animals.

" It is perhaps one of the richest manures that has yet been discovered. People, at first, were very little acquainted with its powers as a manure, and generally applied much greater quantities than were necessary or proper to be laid upon the land at one time. It has not been uncommon to lay on from 100 to 200 bolls and upwards upon an acre of land at once; and the consequence has uniformly been, that the crops, from their excessive luxuriance, did not yield a quantity of grain any way proportionate to what might have been expected, from their appearance

Lime and marl, remain in heaps till they are reduced to a state of pulverization, when they are carried out in carts, and

"ance upon the field or even in the barn-yard, and that the grain itself
 "was of an inferior quality. Besides, where particular care has not been
 "taken to prevent the tenants from over-cropping the land, after such ex-
 "cessive applications of marl, the fertility of the soil has been almost en-
 "tirely destroyed; and it is actually of much less value at this time than
 "it was before the marl was laid upon it. And, even where some care
 "has been taken to prevent the tenants from reducing the land by over-
 "cropping it, it will be found that they have deprived themselves of the
 "advantage they might have derived from a repetition of this manure:
 "for it is a well-known fact, that when a large quantity of marl is laid
 "upon land at one time, it cannot be again repeated, with any confide-
 "rable degree of advantage, for many years thereafter. It seems there-
 "fore to be a duty, which proprietors owe to themselves and the public,
 "to prevent their tenants from abusing a blessing bestowed by Providence
 "for the improvement of the country, and restrict them in the use of it
 "to such moderate quantities as may render it perpetually useful.

"It is believed, that it has never yet been ascertained, by actual expe-
 "riments, what is the most proper quantity of marl to be applied as ma-
 "nure upon an acre of land. For an English acre, it is supposed that
 "from twenty to forty or forty-five bolls may be sufficient. This is, how-
 "ever a subject that well merits the attention of gentlemen, who have
 "marl in their estates, or have land in the neighbourhood of it; and it
 "would be a consequential service done to the country in general, if any
 "gentleman of correct observation would take the trouble of making the
 "experiment, by laying on different quantities of marl upon equal quanti-
 "ties of land (never marled before) of the same nature and quality, at the
 "rate of from twenty to sixty bolls *per* acre, and weigh accurately the
 "grain produced on each of these pieces of land, upon which the different
 "quantities of marl have been laid. It must, however, be observed, that
 "it is not perhaps the quantity of marl, which is found to produce the
 "greatest weight of grain in the first instance, that ought to be applied
 "in common use. For example, supposing it should be found, from
 "these experiments, that the land, which had been manured at the rate of
 "forty bolls to the acre, produced the greatest weight of grain, it would
 "perhaps be more advisable to restrict the common use of it to thirty-five
 "or even to thirty bolls *per* acre; because, it is supposed, that either of
 "these quantities could be more frequently repeated than forty bolls to ad-
 "vantage."

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and spread on the fields by shovels *. On land that has been newly broken, fallowed, or in potatoes, this operation

Some of these observations must not be permitted to pass unnoticed. The first paragraph contains the commonly-received opinion concerning the nature and formation of marl. The assertion in the second, of the immense quantity of it laid upon an acre, applies not, as far as I can learn, to a single field in this county. On some cold and deep soil in Roxburghshire, about an hundred carts have been given to an acre;—but I know only of one instance; the farmer is both judicious and enterprising, has not overcropped the land, and is well repaid for his expence. Marled land may certainly be materially injured by overcropping; but I am warranted to assert, that no part of this county has been so severely scourged by a succession of white crops after being marled, as the whole outfield-land in it has been and some of it still continues to be thus scourged, without receiving a particle of marl; and that, at this moment, there are very few marled fields which have suffered from being overcropped. The proposed restriction on tenants, with respect to the quantity of marl to be laid upon an acre, I should apprehend to be entirely unnecessary; because none of them will put himself to the expence and trouble of carrying a single boll more than his own experience or that of his neighbours teaches him to be sufficient; and though he should, the land would not suffer, provided he was prevented from overcropping it. Restrictions to that effect are certainly very proper. The experiment recommended could not be of general utility, as the soil of contiguous fields, and sometimes of the same field, may require very different doses of marl. For all the sharp soil in this county and Roxburghshire, from twenty to twenty-five carts, or from forty to fifty bolls of marl, are found to be the most eligible quantity. As to repeating the manure, the oftener that is done, and the more of it that is given at a time to land subjected to severe cropping, the sooner is the land brought to poverty; but when land, after being once marled, is judiciously and gently managed, the experience of this county has not yet had time to ascertain how long it may remain in good condition without marl, and how soon it may be marled a second time to advantage. The idea, however, of applying little of it at a time, and having recourse to it again after a short interval, certainly deserves a fair trial; though few tenants may be disposed to make this trial on the longest leases usually given.

* Marl is often laid upon the land in small heaps from the cart, and afterwards spread.

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tion takes place in the beginning of winter, that the soil may receive greater assistance from the manure in producing a white crop. With a crop of peas or turnips, these manures are thought to have a better effect, when applied about the time that the seeds are sown: And the quickest lime is always preferred, as operating soonest in warming the ground, promoting a rapid vegetation, and preventing the fly from attacking the turnips. In other cases, it is not reckoned any disadvantage to land, that the lime shall lie a considerable time in the heap before it is spread and tilled down, provided it is not too much exhausted, by being exposed to an alternate succession of frost and rain.

SECT. IV.—*Weeding.*

Too little attention is paid to the suppression of weeds, both in those lands which are kept in constant tillage, and in those which are sown up with grasses for pasture. Where the turnip-husbandry prevails, farmers are, indeed, at pains to make their fields clean, and put them in good order for barley and clover. But along with the seeds of the clover and different grasses, are very often mixed the seeds of docks and other pernicious weeds, which never fail to spring up, and few are at the trouble of eradicating these or cutting them over. Some are so slovenly as even to neglect their turnip-fields, and to leave their peas and white crops to struggle with a multitude of weeds. Others, at the same time, are so careful as to dig up docks with a spade, to cut thistles and similar upright weeds with a hook made for the purpose, and even to employ people to pull up with their hands such as are branchy and crawling.

SECT.

SECT. V.—*Watering.*

MR CURROR of Brownmuir, a proprietor in Selkirkshire, observing, in the Agricultural Reports of some counties in England, the vast advantage of watering land, and perceiving that it must be of equal importance to sheep-farmers here; made an attempt, in the beginning of the 1796, to introduce this improvement on five or six acres of coarse heathy ground, lying in a corner of an extensive farm, which he has in this county, immediately adjoining to his dwelling-house which stands in Tweeddale. He was at great pains, without receiving any advice or directions except what he derived from these reports, to catch rivulets and springs, to make levels, and to conduct water over every part of a very irregular surface; and he was perfectly conscious, during that season, of making a visible progress in lessening the heath, and of increasing the quantity and the quality of the natural grasses which grew on the field. But he had the mortification to find all his ingenious labours, in a great measure, overturned or altered, by the Messrs Stephens, father and son, who had been completely instructed in that art in England, and who were generously sent by the Duke of Buccleuch, on hearing of the spirited undertaking, to direct and carry it forward. The spot selected for their operations, not lying within this county, it belongs not to my province to describe what has been done. Yet I cannot forbear to make mention of a practice, altogether new in this part of Scotland, which is called *rafter-levelling*, and which consists in cutting rows of fods, in a straight line on the surface, and diagonally below it, in taking away and leaving a row alternately, and in pressing together, with the foot, a spade, or a mallet, the rows that are left, so as to preserve a large portion of the

sward unbroken, and bring that on the different rows nearly into contact. After they become united and compact, the operation can be repeated if necessary. The fods are cut more or less obliquely, and made deeper or shallower, according to the quantity of earth requisite to be removed, and are laid, with their grassy surface uppermost, on low parts of the field to raise them to the proper level. It is obvious that this method can only be practised, where the inequality to be levelled is small, and where there are no obstructions in the soil.

Two advantages are expected from watering land: early grass at a time when it is scarce and of the greatest service to ewes while pregnant or nourishing their lambs; and a heavier crop of hay sooner in the season and of a better quality. The experience of a few years will determine how far these advantages shall be gained by the persevering efforts of Mr Curror.

CHAP.

CHAP. XIII.

LIVE STOCK.

SECT. I.—*Black Cattle.*

ALTHOUGH there is not a greater number of black cattle, in proportion to their relative extents, in this county than in Roxburghshire, yet here the rearing of them is more an object of attention and profit. Few cows are requisite to supply a thin population with milk and butter. The small quantity of arable land can be employed to better purpose, than in keeping them for the sake of making these articles and cheese for sale. And all the turnips, hitherto raised, are scarcely sufficient to preserve the necessary stock kept on farms during winter in a proper condition. From all which, it would appear that the number of black cattle, kept for real use, or fattened for the market, must be very inconsiderable. But in most farms there is
more

more or less, and in many there is a great deal of land, producing luxuriant crops of coarse grasses, of which sheep are not fond, but which are much relished by cattle both when green and made into hay; and, on such land, it is the evident interest of farmers to rear young cattle, which they can sell to advantage from two and a half to four or five years old, according to circumstances. The number of cattle in the whole county must exceed 2200, of which about one-sixth will be sold annually, exclusive of calves and what may be fattened for the butcher.

No partiality is entertained for any particular breed; and hitherto little attention has been shewn to improve the stock upon the different farms by purchasing or rearing handsome bulls, though several farmers are excellent judges, and always buy such cows, and keep such calves, as are most likely to give plenty of rich milk, and to be good breeders. In this selection, more regard is shewn to shape than to kind. Small and long horns, a thin shoulder and neck, a round body, neat, tight, and broad bones, and large milk veins, are preferred to the boasted progeny of the most celebrated breed. If they were equally careful to provide proper bulls*, their cattle would give more and better milk, and fetch higher prices.

All the butter made in the county is little more than sufficient for the consumpt of the inhabitants, and for salting the sheep. The quantity carried out of it is nearly balanced by what is brought into it for these purposes.

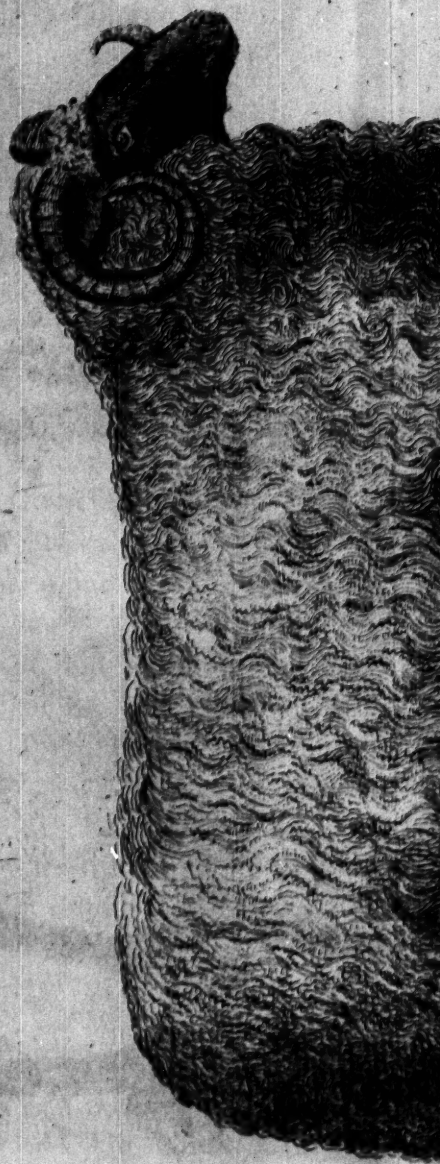
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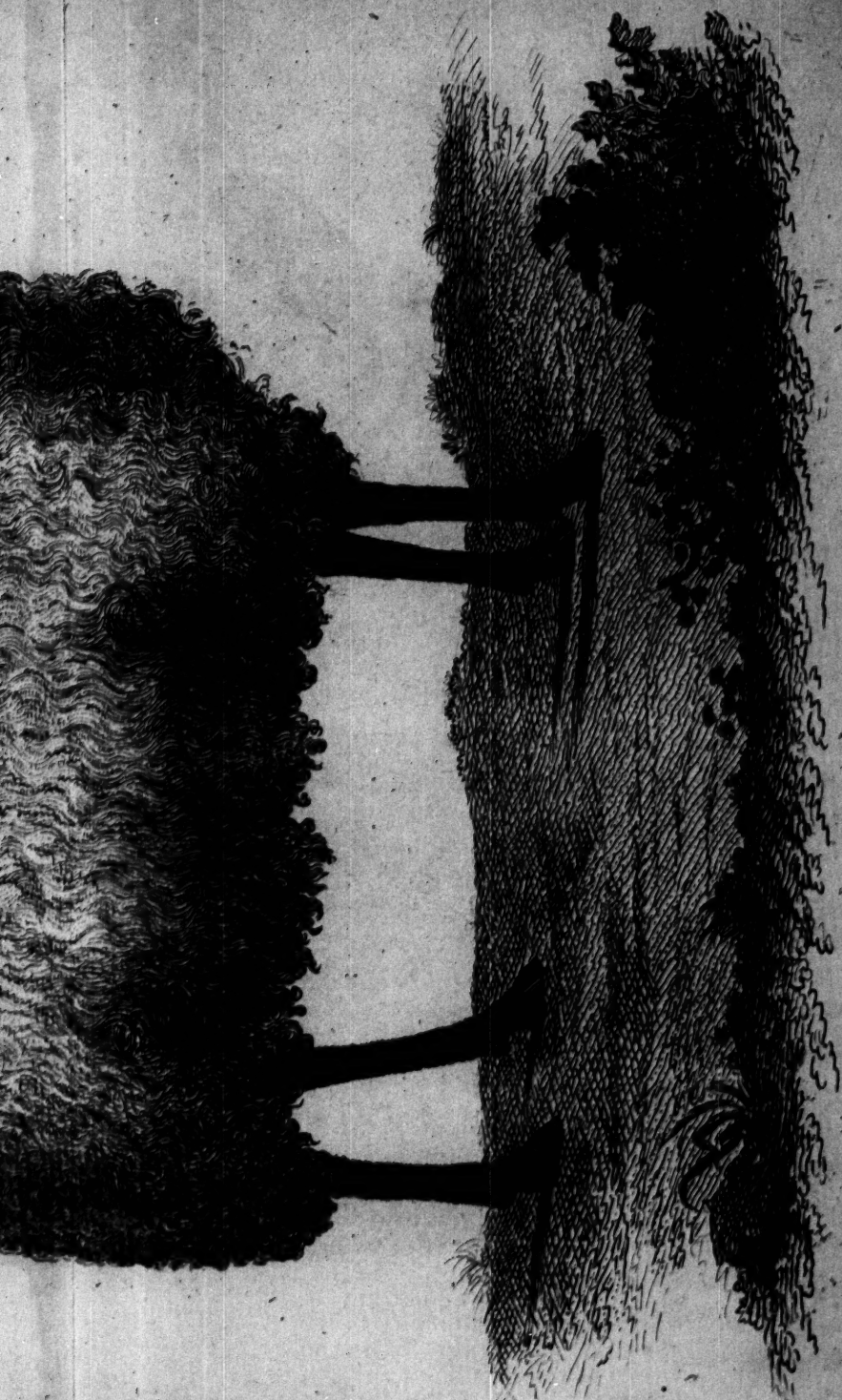
* A bull of the noted *Tees-water* breed, and remarkably handsome, was brought down a few years ago to Riddell, by Sir J. B. Riddell, Baronet. The descendants of this bull are rising to so great esteem among tenants, in the lower parts of this county, that some are purchasing heifers, and others sending cows to bulls, begotten by him. It is to be hoped that this spirit will spread.

Plate II.

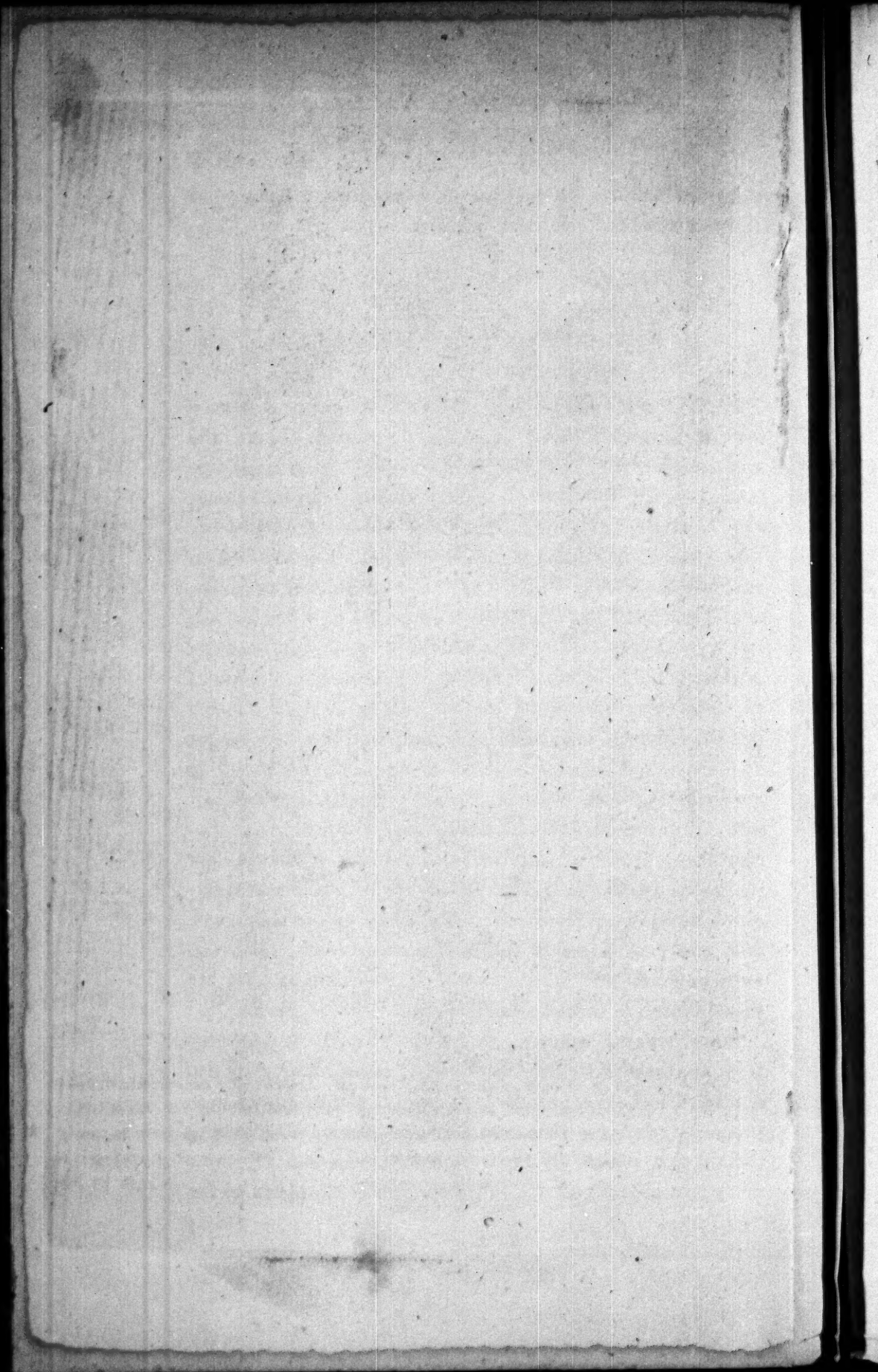
Engraved for the Agricultural Report of Selkirkshire

To face page 241.





BLACK-FACED or SCOTS RAM



Very few cheefes are made of pure cow-milk : but a good many of cow and ewe milk mixed.

SECT. II.—*Sheep.*

It has already been observed that this county is wholly stocked with white-faced sheep, except a tract towards the sources of Ettrick and Yarrow-waters, of which Hindhope is the lowest point on the one, and Ladhope on the other. Few of these, however, are of the genuine Cheviot breed. The change, from the black-faced kind, was effected in most places by using Cheviot tups, for a succession of years, till all traces of the coarse wool, short bodies, black faces and legs, disappeared. This plan was extremely plausible in theory. There was every reason to expect that some of the good qualities of the mother might be retained, and her chief defects corrected ; that her hardiness, her height in the forequarter, and her round body, might descend to her progeny, with finer wool and greater weight of carcase. But the event is a striking proof that the most species theoretical reasoning may be delusive. The present white-faced flocks in Selkirkshire do indeed possess the hardiness of the race from whence they sprung in the female line, and their wool is considerably improved. But still even in wool, and much more in shape and size, they are greatly inferior to true Cheviot sheep.

Some tenants ventured to purchase lambs or ewe-hogs from approved flocks of the Cheviot kind, and, after seasoning them to the soil and climate of their new pasture, procured rams for them of the same breed. Considering the danger, which always attends the removal of young sheep to a distant pasture, this experiment has been abundantly

dantly successful, although the permanent effect of it is lost, by allowing the progeny to mix with the rest of the flock, and giving the whole promiscuously the same rams. One or two had the boldness to bring flocks of old Cheviot sheep, and some young wethers, upon strange and very exposed ground, in very unfavourable circumstances, and have hitherto had no cause to repent. In fineness of fleeces, and weight of carcase, these sheep excel all that have been hitherto mentioned. Nor are they less hardy, or more subject to diseases and mortality, than their predecessors were upon the same farms.

In salving, more tar is used than in Roxburghshire, which affects not a little the weight of fleeces. There, only two gallons of it are mixed with a stone or twenty-four pounds English of butter for sixty sheep*. Whereas, here, the common allowance for that number is no less than five gallons of tar and thirty-six or perhaps thirty-eight pounds of butter. This quantity is laid upon fifty young, and upon seventy old sheep: the latter being more numerous, it must, at an average, salve rather more than sixty; but this is the case equally in both counties. For that number some farmers here give less butter, but the quantity of tar is never diminished; and several of them, who are very intelligent, after trying various proportions of these ingredients, have fixed upon twenty-five pounds of butter and ten pints of tar, (both Scotch, and equal to $37\frac{1}{2}$ pounds and five gallons English) as the most proper mixture both for the sheep and wool of this county. An addition of $2\frac{1}{2}$ ounces English is thus made to each fleece by the tar alone, exclusive of the dust, sand, &c. which inseparably adhere to it; and consequently, about $6\frac{1}{2}$ fleeces, at an average, will weigh a stone, instead of $7\frac{1}{2}$ † as in Roxburghshire, though the animal

* See p. 155, bottom.

† See p. 154,—5.

mal itself is less than a true Cheviot sheep, and its fleece would be lighter if both were freed from salve.

Few wethers are reared, except for the farmer's own use; and, when fattened on his common pasture, they will weigh about twelve or thirteen pounds *per* quarter; in a rich inclosure they may reach fifteen pounds*. Ewes on the hill are about nine or ten pounds*, often not so much, and sometimes more. Wool, though nearly as fine in the pile as that of Roxburghshire, sells, on account of the great quantity of tar in it, at one-fifth† less price. Its average in 1795 was about 16s., and in 1796 might be 20s. or a guinea, exclusive of the wool of the true Cheviot sheep, which was 20s. in 1795, and 26s. in 1796.

The male lambs are all cut, except the few kept to become rams, and, after being weaned, are sold to farmers in the lower parts of Roxburghshire, Berwickshire, and Northumberland. The surplus or draught ewe-lambs, after the best are picked out for supplying vacancies in the flock, go to the same market, or sometimes find purchasers in butchers, when tolerably fat.

Cast or draught-ewes are an important article of sale. Such of them as do not bring forth a lamb, or soon lose it, grow quickly fat on the top of the grass, and fetch a good price as early mutton, or to be fattened on better pastures. The rest, as soon as they get into decent condition after suckling their lambs, are disposed of to graziers.

Black-faced sheep are managed in a manner somewhat different. Inhabiting a higher and more exposed country, they require more tar in salve; a large proportion of their male lambs are not cut; and most of the lambs, not necessary

* All Dutch weight, the pound equal to seventeen and a half oz. English.

† See p. 153, 155. the stone is twenty-four pounds English.

cessary for the flock, and of their cast or draught-ewes, are made fat for the shambles.

The quantity of tar and butter, most commonly mixed, applies not so accurately, without fractions, to sixty as to forty-five sheep. For that number, only twenty-four pounds* of butter are used with five gallons* of tar, which is nearly $6\frac{1}{2}$ gallons* for the three score. Few or none give less tar; and several allow six gallons* of it to twenty-four pounds* butter for forty five, which is precisely equal to eight gallons* and thirty-two pounds* for sixty sheep. One or two retain the old practice of making the quantities of tar and butter equal, a gallon of tar being supposed to weigh nearly the same with two Scotch or three English pounds of butter, and to measure no more than the butter when melted. Even the least of these quantities appears enormous on a superficial view; but though the practice may not be altogether defensible, it is far from deserving the condemnation and ridicule to which it has been exposed. For it is allowed that the coarse wool of these sheep is extremely open and thin at the bottom, and readily admits rain or melted snow. Now this wetness, lodging in the fleece, would hurt the wool, incommode the sheep by its weight, and occasion a constant and unhealthy dampness on the skin, if the animals were not defended by a thick and warm covering, which moisture and cold cannot easily penetrate. At the same time it must be granted, that this covering may be made, by unskilful hands, as cumbersome and intolerable as the evils which it is intended to prevent. And it cannot be denied, that the wool, from this treatment and from its natural coarseness, reaches only about two-fifths of the price of the other. It commonly
sells

* All English weight and measure; but the English pound is supposed to contain sixteen English ounces.

sells at about 6 s. or 6 s. 6 d. when the wool of white-faced sheep is 15 s. or 16 s.; and six or six and a half fleeces of it will at an average weigh a stone.

The lambs, coming into the world with more wool, are less apt to suffer from severity of weather when newly dropped, than those of the white-faced kind. The males, from not being cut, grow larger and flouter; and, from sucking longer, and sometimes too getting sweet and tender grags, are sold fat at 1 s. 6 d. a-piece above the current price of other lambs. The females, also, are thereby put into excellent order, either for being kept on the farm, or for accompanying their brothers to the markets of Edinburgh or Dalkeith. In this case little or no cheese can be made, as the mothers, brought low by giving milk so long, require rest and nutritive food to recover their flesh and strength, for standing the winter, or for being sold to advantage. Such lambs, as are cut and early weaned with a view of making butter for salve or cheese for sale from their mother's milk, as well as the cast ewe-lambs, are disposed of in the same way with the white-faced lambs. Both are sometimes kept over winter and sold about Whitsunday under the name of *bogs*.

Being kindly feeders, ewes, uncumbered with lambs, grow soon fat, and even many, after being reduced by nursing, pick up so quickly as to become excellent mutton towards the end of the season. Their average weight then will be from nine and a half* to ten and a half pounds *per* quarter. On turnips, and even on grass in fertile and sheltered fields, they will reach two pounds more. The rich juice and admirable flavour of their mutton secure to them a ready market and a good price.

Qq

In

* Dutch weight.

In several farms, stocked some with white and others with black-faced sheep, great ewes are sold. Instead of being sent to market towards the close of the season, they are kept till spring, and fetch when big with young 3 s. or 4 s. of additional price. To accommodate them with food during winter, fewer other sheep either old or young must be kept on the farm. For this mode of management, two reasons are assigned; the profit of wintering a part of the draught-ewes, and the advantage of lightening the pasture in spring and leaving more food for the remaining ewes and lambs. But these reasons can only apply to a few farms, where there is little grass early in the season when lambs make their appearance, and when the heath, on which ewes feed through winter, becomes unfit for their use. For on most sheep-walks there is as much more grass in summer than in winter, as will sufficiently maintain all the lambs brought forth by the breeding flock, and, as it gradually fails, the mouths upon it are lessened by the sale, first of lambs, and afterwards of cast-ewes. Not to dispose of these cast-ewes at such a price as they will bring must be attended with one of two disadvantages: it must either diminish the number of breeding ones or of young ones to supply their places, or it must overstock the farm. To sell them before the commencement of winter is certainly the most simple and natural method, and it is becoming daily more prevalent*.

Ewes of both white-faced and black-faced flocks are milked from three to eight weeks, according to circumstances.

* I understand the practice of selling great ewes was introduced at a time, when both wool and lambs were of little value: And farmers were willing to forego the trifling profit arising from them, for the sake of selling their ewes at a higher price, and of avoiding all risk of diseases and mortality among both sheep and lambs.

stances. Some butter is made of their cream, chiefly for salving; and a good many cheeses are made of their milk, mixed in different proportions with that of cows, of the same size and weight, and much in the same manner, as in Roxburghshire.

Though the same diseases also prevail, and may be arranged in the same order with respect to prevalence and fatality, yet it deserves to be mentioned, that, in particular local situations, this arrangement admits of some variety; of which the following instances are the most common and striking. In one farm, the diseases are thus classed, *sickness, rot, braxy, sturdy, louping-ill*. In a neighbouring farm, *louping-ill, sickness, rot, sturdy, braxy*. In one at the distance of four miles from the last mentioned, *sickness, rot, sturdy, little braxy, or louping-ill*. These three instances are all taken from farms on the north of Ettrick water. In several places on Yarrow water, the *louping-ill* takes place of the *sickness*. But it is remarkable, that, where this last disease is not the most prevalent, it always holds the second place, except in a single instance, in which the sturdy* comes before it; a fact which clearly establishes

* Concerning the sturdy, I have been favoured with the following curious information, of which I gave a hint, page 163. A medical gentleman, of acknowledged ability and anatomical knowledge, writes to this purpose: "In my young and inquisitive days, I examined several diseased heads of sheep, none of whom, however, was allowed to die of the disease, and found one having thirteen cists with water in different parts of the brain, one larger than the rest behind the horns, where most commonly that cist is seated between the lobes of the brain, which, when full of water, by its pressure thins the skull. The brain seems not to suffer otherwise than from being compressed by the watery cist. If there is only one large cist of water between the lobes of the brain, and if it could either be burst by something thrust up in the nostril, or taken out by trepanning the skull, a cure may be effected; but if there are
" more

blishes its claim to a decided precedence among all the maladies incident to sheep.

From the preceding pages it may be collected, that, through the whole of this county, five acres will nearly maintain four sheep. Reckoning the average rent of an acre at 2 s. 9 d. and the grass eat annually by every sheep at 3 s. 6 d., the former multiplied by five amounts to 13 s. 9 d. and the latter multiplied by four to 14 s. According to this calculation, there are 118,400 sheep on the 148,000 acres in pasture. We shall arrive pretty much at the same conclusion, by supposing, with several judicious farmers, that, throwing all the poor land together, there may be fully one-third of the pasture-district, of which a sheep will eat the produce almost of two acres, and that 50,000 acres will scarcely maintain 30,000 sheep, that there is about another third, of which four sheep will consume five acres, and that, on the remaining third, an acre will afford sufficient food for a sheep, and some favourite spots may even do more. There will thus be

50,000,

"more than one, I see no prospect of a cure." The same gentleman told me in conversation, that he is assured by several shepherds, who are in use to trepan skulls, and to examine the heads of sheep either cut off by this disease or killed upon its being found incurable, that they frequently have seen more than one cyst or bag of water in a head.

To ascertain how far this disorder is hereditary, it would be a patriotic attempt, if any farmer would pick out a few ewes and a ram who have been cured of it, keep these by themselves, and watch their offspring; or make the same experiment with a ram and ewes, one of whom had recovered from it and the other had never been affected by it. The state of their progeny, compared with that of other sheep in the flock of the same age, would probably solve this question. It is of equal importance to determine whether other diseases are transmitted directly from one generation to another. To know the cause is always one essential step towards preventing or at least mitigating a mischievous effect.

	Sheep.
50,000 acres for - - -	30,000
49,000 acres at five acres to four sheep,	39,200
49,000 acres at one sheep to each	49,000
148,000 acres, maintaining	118,200 sheep.

It is admitted, that there is not one-third of the whole sheep in the county black-faced. Estimating them at 36,000, and allowing thirteen fleeces to weigh two stones, they will yield annually about 5538 stone of wool, which, at the average price of 6 s. 6 d. is nearly L. 1800 Sterling. Taking 200 less than the lowest of the two preceding calculations, and supposing the whole sheep in the county to be only 118,000, there will remain, after deducting 36,000 black-faced ones, precisely 82,000 of the white-faced, whose fleeces at 7 to a stone, will weigh upwards of 11,700 stone, and the wool, at the average of 15 s. *per* stone, brings a little more than L. 8770 Sterling.

For other particulars relative to sheep, the reader is referred to what is mentioned on this subject in the Account of Roxburghshire. Perhaps it should be noticed, that the people here are not reckoned so nice in mixing the ingredients, laying on the salve, and shearing the sheep, as they are there. But this remark already admits of some exceptions, and, it is hoped, will, in a few years hence, cease to be applicable to a single individual*.

SECT.

* A singular instance of longevity in a sheep occurred lately in this county. As far as I can judge, she must have been of (what Mr Culley calls) the *Herdwick* breed, though rather larger, perhaps from getting better pasture, or having a *beath* or black-faced ram for her father. The mother was presented, by the late Archibald Douglas Esq; of Cavers, some years before his death which happened in the beginning of 1774, to
John

320 AGRICULTURAL SURVEY

SECT. III.—*Horses.*

THE few horses, requisite for cultivating the arable district, are partly of the Lanarkshire, and partly of the Northumberland breed. The former were in higher estimation some years ago than they are now. They are naturally too weighty to stand the fatigue of long journies, and of late this inability has increased by the great length and consequent slackness of back, which they have acquired from the inattention or injudicious management of the breeders. Their stallions still frequent this county, and are employed in the higher parts of it, where young horses are chiefly reared. But in the lower parts, horses from the north of England are preferred, because, having all more or less blood, they can be ridden as well as wrought, they are admirable travellers with loaded carts in a hilly country, they have sufficient strength to draw a plough through light soil, and their foals partake of their mettle and speed. Some Irish horses are also used for draught. Farmers do not so much regard the kind or breed, when purchasing horses, as their shape, their tractability, their suitableness for a particular purpose, and, if mares, their being likely to bring good foals. Several of them, as well as the resident proprietors, keep saddle-horses with a considerable portion of blood, and ponies as drudges. But
horses

John Elliot Esq; late of Borthwickbrae, when with lamb of this ewe, which lived till March 1796. The precise year of her birth cannot be certainly ascertained. The shepherd alleges, that she was on the eve of twenty seven years when she died, and she must have been at least twenty-four. Most people, who had access to know her age, agree that she was twenty-five if not older. But even twenty four, which is undisputed, is an extraordinary period for a sheep to live.

horses of full blood, though sometimes used for the chace and for the road, are not numerous.

More horses are reared in the county, than are purchased from other places; but the number of both fluctuate so much annually, that it cannot be easily ascertained. There were, in 1796, 574 saddle, carriage, and draught horses, in the whole county, charged with duty to Government, and only 22 exempted from it, not including foals.

SECT. IV.—*Hogs.*

SWINE are reared only by a few gentlemen and farmers for their tables, and by millers for the market. In some seasons, one or two of them are fattened by other farmers, cottagers, and artificers, on the offals of their stack-yards, gardens, and tables, during the winter months, either for the use of their families or for sale. Their number varies so much from year to year, that no average can be formed of it; but though it is never great, yet a small quantity of bacon or pickled pork is sent annually from Selkirk to Berwick. The large breed are chiefly kept about mills; a middling kind, weighing when fat from twelve to sixteen stone, are in greatest esteem through the county in general, and a few of the Chinese are likewise used.

SECT. V.—*Rabbits.*

SECT. VI.—*Poultry.*

SECT. VII.—*Pigeons.*

THE reader must be referred to what is said concerning these particulars in the Account of Roxburghshire. Rabbits burrow in several places. A few of them are kept tame;

tame; but they are not any where an object of much attention. As corn is essential to the maintenance of poultry and pigeons, there must be few of both, except in the arable district and its immediate vicinity. The reverse is the case with bees. They thrive and yield plenty of excellent honey in the wildest as well as in the most cultivated places. In a favourable season, their produce must be a considerable source of profit to the lower class of people, by many of whom they are managed with much skill. There can be no doubt that many more of them might be kept with equal advantage. Every shepherd, cottager, and mechanic, especially in remote situations, would find pleasure in paying attention to them, and generally may make an addition to his yearly income. There is no place from whence heath or white clover is far distant: Bees are remarkably fond of both; and both give a rich flavour to honey. The culture of bees is attended with little expence or trouble: They are not subjected to many accidents; and their honey is sure of bringing a good price either in combs or in a fluid state.

CHAP.

CHAP. XIV.

RURAL ECONOMY.

SECT. I.—*Labour, Servants, Labourers, Hours of Labour.*

THE only works done by the piece, are drains, ditches, and buildings.

IN some soft spots, drains have been made of two feet, both in width and depth, so low as at 4 d. When carried through light soil on a bottom of till approaching towards gravel, they cost 6 d. and when the till is very hard, or when huge stones are to be removed or cut through, they cost 8 d. and sometimes 10 d. That price has been paid for digging and filling up drains, both wider and deeper, where such obstructions did not come in the way: the undertakers, however, seldom fill the drains: that is commonly done by their employers. Branches, to convey

R. r

small

small springs into the main drains, are from sixteen to twenty-four inches, and cost less in proportion to their narrowness, their shallowness, and the facility of making them. Open drains, in sheep-walks, from fourteen to twenty inches broad, and from seven to fourteen inches deep, seldom exceed 1 d. and are often not so much.

The rate paid for ditches varies according to their width, and the nature of the ground. When not above three feet or even three and a half feet wide, and from twenty to twenty-four inches deep, 5 d. or 6 d. is about the average price of making them and planting thorns. They are seldom broader and deeper, because the good soil is in general shallow and the substratum hard.

Stone-walls, without mortar, are built four and a half feet high for 1 s. 8 d., when the stones are brought to the spot; to cope them with fods, costs 2 d. more, and to add eighteen inches of a Galloway top to their height, advances the price to 2 s. All the above prices relate to the rood of six yards. The rate of building with lime and of slating by the piece is the same as in Roxburghshire.

To the account already given of that county, a reference may be made for information concerning the other particulars in this section. But I think it necessary to correct a small mistake which I made with respect to the supper of reapers. Bread and milk is rarely given them since the introduction of potatoes. Their common supper, in both counties, is, either porridge and milk, or mashed potatoes and milk; or else a penny each evening, or a certain quantity of oatmeal or grain through the whole harvest, to provide one for themselves. It may not be improper to add, that ewe-milking being reckoned the severest and most unpleasant of all female labours, the women, who are employed in it, receive from 50 s. to L. 3 of wages for the summer

summer half year; while during the winter half year they get only from a guinea to 30 s.

The wages of shepherds, also, deserve to be particularly mentioned, as they are nearly the same in both counties. They are commonly eight *soums* of grafs, or what the parties reckon equivalent in value to these. A *soum* is the grafs eaten by one cow or ten sheep. Supposing a shepherd to receive his whole wages in the grafs of eighty sheep, their amount, according to the preceding calculations, would be as follows :

His 80 sheep will bring 54 lambs, of which, after keeping a proportion for his flock, he will sell 36 at

5 s. - - - - - L. 9 0 0

He will sell 12 or perhaps 13 old or cast-ewes,

at 11 s. say only 12, - - - 6 12 0

Besides 75 fleeces, which, of white-faced sheep,

will produce, at 2 s. each, - - 7 10 0

The skins and carcases of his dead sheep, his

cheese and butter, and his udder-locks, will

be - - - - - 2 0 0

L. 25 2 0

In this calculation, there is a sufficient allowance for casualties; but from the sum total must be deducted the interest of the original price paid for his flock, which, at 13 s. each sheep, will be L. 52, and will reduce his wage to L. 22, 10 s.

The more common wages of shepherds, however, are 40 or 45 sheep; a cow kept through the whole year; a house and garden; his master's horses to bring home his fuel; and a stone of oatmeal every week. According to the

the above statement, his profit on the 40 sheep
will be - - - - - L. 11 5 0

His cow is commonly valued at - - - 3 0 0

His stone of meal, at the average of 2 s. is - 5 4 0

His house, garden, and use of horses, - 2 2 0

L. 21 11 0

But his cow will yield him double the sum that is here assigned, besides maintaining his family. He is careful to provide a good one; she fares well both in summer and winter, and brings into his pocket of clear gain generally L. 6, and sometimes L. 10. In some places he is allowed forty-five sheep, or the summer's graze of a steer or heifer; but in these places the pasture generally is coarse, the chance of mortality is great, or the fleece is of inferior value. The number of sheep is always reckoned at the time of salving.

It deserves the special notice of sheep-farmers, that this last is the most profitable plan both for themselves and their shepherds. Masters pay, as rent, 3 s. 6 d. for every sheep kept by their shepherds. At this rate, it may be thought, that, in the former case, they are only L. 14 out of pocket to the shepherd for his eighty sheep. But it is evident that they likewise lose all the profit which he makes, after every reasonable allowance for risk and the interest of stock. In the latter case, he has a sufficient number of sheep to interest him in the welfare of the flock, he has more conveniency for his family, and by frugal management his annual income may be larger. Farmers, at the same time, have the profit arising from forty more sheep, are not put to so great expence by what they give to the shepherd in lieu of these, and have a sure pledge that proper care shall be taken of their flocks. It should be a maxim with them to give a shepherd maintenance for no more sheep

sheep than will ensure his attention, and to make up his wages from other sources less connected with the grand object of emolument to themselves.

SECT. II.—*Provisions.*

MEAL and flower, which constitute the chief food of the inhabitants, are rather dearer here than in the arable district of Roxburghshire, but not so dear as in Peebles or Dalkeith. On account of the small quantity of grain raised, no *fiars* * are struck, as in the neighbouring counties. The monthly returns sent to Government of the prices of grain are as follows, by the county boll:

* To strike the *fiars*, is the common phrase in Scotland for fixing the average price of grain. See note, p. 194.

TABLE

T A B L E.

	WHEAT.		PEAS.		BARLEY.		OATS.		OATMEAL.	
	L.	s. d.	L.	s. d.	L.	s. d.	L.	s. d.	L.	s. d.
1791, last 4 months, —	1	6 1	0	19 5	0	19 5	0	15 4	1	8 0
1792, first 6 months, —	1	6 1	0	16 9½	1	0 1½	0	15 0½	1	6 0
— last 6 months, —	1	8 2	0	19 1½	1	0 9½	0	16 1½	1	7 0
1793, first 6 months, —	1	8 9	1	3 3	1	5 2½	0	19 1	1	11 10
— last 6 months, —	1	11 7	1	10 0	1	1 8	0	19 5	1	13 4
1794, first 6 months, —	1	9 8½	1	3	1	1 5½	0	19 9½	1	12 2
— last 6 months, —	1	12 1	1	2 7½	1	6 6½	1	1 3½	1	11 10
1795, first 6 months, —	1	15 7	1	2 0½	1	5 5½	0	18 10½	1	11 2
— last 6 months, —	2	15 2½	1	9 6	1	8 8	1	9 0	1	15 8
1796, first 6 months, —	2	14 7½	1	9 9	1	13 8½	1	6 7½	2	1 4
— last 6 months, —	2	2 4½	1	7 4½	1	8 1	0	19 11½	1	14 2

There

There are butcher markets both at Selkirk and Gala-shiels, where beef, mutton, veal, lamb, and pork are all sold in their different seasons, nearly at the same prices as at the neighbouring markets in Roxburghshire. None of these articles is to be got regularly through the whole season. From the beginning of August until March, the mutton in excellence will yield to none in the kingdom. Lamb is plentiful and very good from the middle of June until the end of September. Beef, fed on grass, abounds from September till Martinmas, and is soon succeeded by similar beef fattened on turnips, which continues till May. From that time till August every kind of butcher-meat is rather scarce except lamb. Little pork or veal is killed for sale; though both are favourite dishes at the tables of some gentlemen and farmers, who are at the trouble, either of feeding them, or of providing them from other markets. The southern part of this county is supplied with every kind of provisions from Hawick. And such farmers as are far from markets, as well as most of the gentlemen, use their own mutton and lamb. A number of very good salmon are caught in that part of Tweed which intersects this county, and sold at 6 d. *per* pound (Dutch) till they begin to fall away, when they are sometimes so low as 1½ d. and are purchased by the poorer class to be salted and eat during winter with potatoes. Herrings, however, are a cheaper, a more common and a more agreeable seasoning to that popular and nutritive root. Salt herrings seldom cost more and generally less than 9 d. *per* dozen. And those, who do not raise enough of potatoes for themselves, can always be supplied with plenty at the average price of 10 d. or 1 s. the Linlithgow firlo. Onions being annually exposed to sale at a reasonable rate, milk being every where abundant and cheap, and butter and cheese being easily within their

their reach, the poor, while meal does not rise to an exorbitant price, live comfortably on these wholesome and favourite dishes. There is a great difference between the price of poultry in the northern and southern parts both of this county and Roxburghshire, owing to the one being nearer to the capital, and having easy communication with it by excellent roads. In 1791, the prices were as under :

	NORTHERN.	SOUTHERN.
A good hen, -	1 s. 0 d.	- 0 s. 7 d. or 8 d.
A chicken, from 3 d. to	0 s. 5 d.	- 0 s. 1½ d. to 3 d.
A duck, from 1 s. to	1 s. 2 d.	- 0 s. 8 d. or 9 d.
A duckling, 8 d. or	0 s. 9 d.	- 0 s. 5 d. feld. fold.
A goose, -	2 s. 6 d.	- 1 s. 8 d.
Pigeons, per dozen, -	2 s. 0 d.	- 1 s. 6 d.
Eggs, per doz. from 3 d. to	0 s. 8 d.	- 0 s. 3 d. to 6 d.

In both districts, these prices are on the increase, and the difference now is not so striking, though it is still very considerable.

SECT. III.—Fuel.

THE northern part of this county is supplied with coals from Middleton, and the south-east corner of it from Canoby in Dumfriesshire. Their weight, measure, and prime cost, at both places, have been already mentioned *. And to it, an addition may be made of 2 d. *per* cwt. for every five miles that they are carried. It is chiefly in these parts, too, and especially towards the north, that the thinnings of wood are used for fuel. In all the higher district,

peats

* See p. 196.

peats are burnt; and to make and prepare them, constitutes the principal work of the inhabitants during summer. They would gladly bring coals, notwithstanding the distance, if the roads were fitter for wheel-carriages. I am sorry to add, that turfs, those inveterate foes to the soil, are not entirely laid aside.

CHAP. XV.

POLITICAL ECONOMY, AS CONNECTED WITH OR AFFECT- ING AGRICULTURE.

SECT. I.—*Roads.*

IN consequence of an act of Parliament, obtained in 1764, a road of twelve miles was made from Crofslee toll-bar on the confines of Mid-Lothian, through Selkirk, to Haremo's toll-bar towards Hawick, with a branch of three miles to the village of Galashiels. Part of the road from Kelso to Peebles, to the extent of six or seven miles, runs also through this county from Galashiels bridge, to Gait-hope-burn beyond Hollilee toll-bar. The expence of these roads, and of a substantial bridge over Tweed at Fair-nilee, was L. 6560. And the produce of the tolls has hitherto been barely sufficient to defray the annual charge of keeping the roads, bridges, and toll-houses, in proper order.

Substantial

Substantial and lasting roads could easily be made on the gravelly and stony bottom of this county, especially near its running waters. Yet few of the cross or county roads have ever been put in proper order. An excellent road was indeed made, about thirty years ago, from Selkirk along the banks of Yarrow for five miles, when it ascends Minchmoor, and proceeds towards Peebles. Attempts have since been made to amend and alter the direction of the roads on the sides of Ettrick and Yarrow waters, both of which might be carried forward to Moffat, and open up the nearest line of communication from the northern parts of Roxburghshire, the southern extremity of Mid-Lothian, and a large tract of Berwickshire, to Dumfries and the circumjacent country. A little attention to improve another cross-road, from Ashkirk in Roxburghshire to Roberton church, and from thence through a corner of this county in a line towards Mosspaul, would save about five miles to a considerable district of both counties, which is furnished with coals, lime, and other articles from the neighbourhood of Langholm. Much remains to be done to all these cross-roads, and to one between Galashiels and the county town. If these were put into a respectable condition for allowing an easy passage to wheel-carriages, a very little expence, bestowed on the bad steps of the others, would render them much safer and easier to travellers on horseback, for whom alone they seem to be designed.

A trial has lately been made of a small piece of road on an inclined plane. Roads, made on this plan, may be very durable, and answer the purpose extremely well in mild weather; but during the severity of winter, frost may render travelling upon them highly dangerous, especially in those places of this hilly and cold country which then feel not the influence of the sun.

SECT.

SECT. II.—*Canals.*

In a hilly county, whose lowest point is 300 feet above the sea, and upwards of thirty miles distant from it, and whose extent, population, and produce are small, the practicability of making a canal may reasonably be doubted, and the advantages attending one would be trifling.

SECT. III.—*Fairs.*

At Selkirk there are two considerable fairs; one upon the 5th of April for hiring servants especially ewe-milk-ers, paying rents, feu-duties, taxes, and other debts, and selling great ewes, and different grains for seed; the other on the 21st August for cattle, paying rents, and receiving the price of sheep, and seed-corn sold at the former one. At both there is a good deal of linen and woollen cloth. Four lesser fairs are likewise held there, and three at Galashiels for various purposes, according to the season of the year, the chief of which are seed-corn, great ewes, wool, cheese, pickles, hiring reapers, and settling accounts. It may be proper to mention, that all grain for seed is sold by sample, great ewes, wool, and cheese, by their known state and the character of the farm where they are raised or made, and that cattle alone are brought personally to the fairs. It will readily occur to every reader, that the farmers here regularly attend the neighbouring fairs at Earlston, Melrose, St Brevell's, and Hawick. Some of them
also

also go to other fairs, particularly to Langholm on the 26th July, where wool and lambs are sold, to Peebles on the first Tuesday of March, reckoned the largest fair in the neighbourhood for great ewes, besides two or three other fairs there, and to fairs in Mid-Lothian, Lanark, and Dumfries-shires for horses and black-cattle. One or two of the most enterprising among them frequent fairs in England, and have been for some years successively as far as Borough-bridge.

SECT. IV.—*Weekly-Markets.*

THE only weekly market in the whole county is at Selkirk on Wednesday. It has generally a tolerable supply of butcher-meat, and is pretty well attended by the neighbouring farmers; but most of them towards the south prefer the market at Hawick on Thursday; and a few towards the west and north-west go to the market at Peebles on Tuesday.

SECT. V.—*Commerce.*

THIS county, neither raising wheat nor fattening cattle sufficient for its consumption, is obliged to import these, besides the necessaries and luxuries imported into Roxburghshire. But, at the same time, being more thinly peopled in proportion to its extent, less is to be deducted from its exports for maintaining the inhabitants, and something may be added to them on account of its manufactures. The following statement is the most correct that the slender materials,

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terials, with which I am furnished, enables me to give of the principal articles of its produce and expenditure :

Oats, 4800 acres, at $3\frac{1}{2}$ bolls per acre, and at 15 s. per boll, or L. 2 : 12 : 6 per acre, 16800 bolls, - - - - -	L. 12600 0 0
Barley, 1000 acres, at $4\frac{1}{2}$ bolls per acre, and L. 1 per boll, or L. 4, 10 s. per acre, 4500 bolls, - - - - -	4500 0 0
Peas, 600 acres, at 4 bolls per acre, and at L. 1, 10 s. per boll, or L. 6 per acre, 2400 bolls, - - - - -	3600 0 0
Black-cattle, 360, (being nearly one-sixth of 2200), lean and fat, young and old, at L. 7 each, - - - - -	2520 0 0
Horses, 50, young and old, at L. 12 each, - - - - -	600 0 0
Ewes, 19600, at 11 s. each, - - - - -	9800 0 0
Lambs, 56200, at 5 s. each, - - - - -	14050 0 0
Wool, 82000 fleeces, at 2 s. - - - - -	8200 0 0
Cheese, 36000 fleeces, at 11 d. about - - - - -	800 0 0
Cloth manufactured, 79000 yards, at 2 s. 6 d. - - - - -	9875 0 0
Clear profit on other manufactures, as tan- ned-leather, inkle, &c. supposed about - - - - -	800 0 0
Total produce of the county, -	L. 68995 0 0
From this sum, are to be deducted,	
The rent of the county, L. 28000 0 0	
Carried forward, -	L. 28000 0 0 L. 68995 0 0

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Brought forward,	L. 28000	0	0	L. 68995	0	0	
Grain for the inhabitants, at the rate of one-half stone of meal to each <i>per week</i> , at 2 s. <i>per stone</i> , 4646 people,	-	-	L. 2323	0	0		
Oats for 574 horses, at the rate of thirteen bolls to each, and of 15 s. <i>per boll</i> ,	5596	0	0				
Butcher-meat, and wheaten-bread, for 4646 people, at the rate of 8 d. <i>per week</i> for each,	-	-	8052	0	0		
Prime cost of 412 pack, or 34608 fleeces, at the average of seven to a stone, and at the average price of 2 s. <i>per fleece</i> ,	-	-	3460	0	0		
				47432	0	0	
Which leaves a clear gain to the county,							
of	-	-	-	-	L. 21563	0	0

after paying rents, and maintaining the inhabitants and their cattle. The reader will observe that it is greater, in proportion to the real rent, than that of Roxburghshire, which is to be ascribed chiefly to the flourishing manufactures at Galashiels. For while all the cloth and tanned leather made in the one county, with the surplus of profit arising from tawed-leather and carpets, will be barely sufficient for clothing the inhabitants, it may be safely affirmed, that, in the other county, the number of yards mentioned in the text are annually sold of woollen-cloth, besides what the people wear, and that there is at least the amount there sta-

ted

ted of clear profit on other articles actually manufactured, after a fair allowance for what are used in the county, and for the prime cost of materials. It is, however, to be remembered, that the wages of manufacturers are high, and that they consume fully more butcher-meat and wheaten-bread, than the quantity specified. Neither beef nor wheat being produced in the county in any respect adequate to its consumpt, instead of deducting, as in Roxburghshire, a fifth part of the live-stock annually sold, I hope to come nearer to the truth, by allotting a small portion of each weekly to every soul in the population, and by supposing that the gentlemen and their servants, the farmers, the manufacturers, and the wealthier inhabitants of Selkirk and Galashiels, eat as much more than the assigned quota, as infants will fall short of it, and those labourers and peasants who seldom regale themselves with such sumptuous fare. It may be thought, as most of the black-cattle are sold at or below four years old, that more than one-sixth of them ought to be charged to the produce of the county. But most of the inhabitants of Selkirk and Galashiels, and many tradesmen and cottagers, who keep cows for their families, rear no calves, except a few fatted ones, and seldom part with their cows except in exchange for younger ones, so that one-sixth of the whole cattle will be fully equal to one-fourth of those which are actually reared. The same rule cannot be applied to horses, because those, employed for draught and the saddle, require so great an annual supply as to leave no more than a surplus of fifty, if so many, to increase the general account. The quantity of cheese made here is rather greater in proportion to the number of sheep than in Roxburghshire *, and the consumpt by the
thin

* Even there more cheese is made than consumed; but it is not fatted, because of the higher value put upon both sheep and lambs.

this population being much less, another small addition arises from this article. I hope the prices specified will be found a tolerably just medium between the highest and lowest which have been given for some years past, and such as may be reasonably expected, at a fair average, for a series of future years.

SECT. VI.—*Manufactures.*

THE chief manufactures are woollen-cloth, stockings, tanned-leather, inkle, and different implements of husbandry, or wood *blocked* out for making them,

Woollen-cloth is mostly made in Galashiels, and its suburbs in Roxburghshire which were all built during the last twenty years. It is of different degrees of fineness, from 600 to 1300 threads in breadth, and from 1 s. 4 d. to 7 s. of price *per* yard to wholesale dealers. The average will run from 2 s. 4 d. to 2 s. 9 d. The wool, in general, is rather coarse, and will not, at an average of eight or ten years, exceed 14 s. or 15 s. *per* stone, though small parcels of it have been used as fine as 45 s. and several are annually manufactured from 21 s. to 30 s. The gradual increase and improvement of this manufacture may be seen from the following facts. In 1775 *, there were only 722 stones of wool manufactured, every kind of machinery for preparing and spinning it was unknown except the common cards and wheels, and there was little or no cloth made above 3 s. *per* yard. In 1790 *, the number of stones manufactured was 2916, there were two *jennies* for spinning yarn, and cloth was frequently made at 5 s. *per*

T t

yard,

* Stat. Acct. Vol. II. p. 308, 9, 10, 11.

yard, some of it even higher. In 1797, the quantity of wool purchased is 4944 stone, the number of spinning-jennies has increased to 18 *, four different houses have been built with water-machinery for teasing, scribbling and carding the wool, broad looms have been procured for making blankets eleven-quarters wide when finished, machines have been erected, for raising the pile upon them, and also on cloth that it may be more equally shorn, and for brushing cloth free from all coarse piles and all rough substances which may adhere to it, both before it is subjected for the last time to the shears, and after it comes from the press. There are, likewise, improved presses, larger and stronger than the common ones, with plates heated in an oven, which, being placed among the cloth at the same distances, diffuse the heat more equally than a fire below, and save the necessity and trouble of shifting the position of the different pieces and bringing them alternately near to the heat. A cylinder, too, has been just purchased for glazing worsted stuffs. These and other acquisitions, all made in the course of seven years, have cost about L. 3000 Sterling, besides the aid afforded by the Honourable Board of Trustees for Manufactures, &c. in Scotland,—a trifling sum, indeed, in comparison of what has been laid out in other places, but a great deal for poor people, who began business without any capital, to earn in a short time by their own industry and enterprise, and to sink in buildings and perishable machinery. They are now enabled to make a much greater quantity of cloth, on a shorter notice, and of a better quality. Pieces are sometimes exposed to sale as high as 8 s. *per* yard, from 7-8ths to very nearly a full yard wide, and those at 5 s. and even at 4 s. 6 d. are rather better and somewhat broader than what some time ago brought

* There will probably be twenty-four before the end of the year.

brought these prices. An attempt has been made to establish a Hall for selling cloth, and a commodious house has been built for that purpose, which, in a few years hence, it is hoped, will meet with the encouragement it deserves. Here, too, as well as at Selkirk, a good deal of *country-work* * is done. The wool and yarn of private families are made into cloth, flannels, blankets, and worsted-stuffs for womens gowns, to an extent fully equal to the demand of the county itself. There are eight fulling-mills pretty constantly employed, seventeen clothiers who manufacture cloth on their own account for sale, and about sixty-four hands in all daily working at some branch of this business, besides those who spin wool at their own houses and weavers, whose joint number will exceed 300. In 1790, the clothiers in Galashiels employed 241 † women to spin yarn for them. Their number is rather lessened since the introduction of spinning-jennies, but these and the other machines afford work to several hands, and many spin in different parts of the county for themselves, for the families where they are servants, or for those who furnish them with wool properly prepared and pay them at the rate of 6 d. for every *slip* or *bank* of twelve cuts. That quantity of yarn spun by the machines, costs only 4½ d. There were then forty-three looms in that village, and there are fifty-four at present, besides a few at Selkirk and other places in the county; and though some of them constantly, and others occasionally, are employed in weaving cotton and linen-cloth, yet by far the greatest part of them are entirely, or at least mostly, filled with woollen-webs, which sometimes, though very rarely, belong to the weaver himself, and are in general the property either of manufacturers or private families in the neighbourhood. These circumstances

* See p. 212.

† Stat. Acct. Vol. II. p. 309.

cumstances prove that the number of people assigned to the woollen-manufactory is not exaggerated.

The quantity of stockings made annually, after supplying the county, is extremely trifling. But an inkle manufactory, carried on with spirit, employs fifty hands*, and must bring a very handsome return. There are, also, two tanworks which paid L. 124 : 1 : 11½ of excise-duty in 1795. The tawers in Galashiels have all removed to its suburbs in Roxburghshire, and an account of the duty paid by them has already been given†. There are none now in the county. Two candlemakers pay annually about L. 53 to Government; but do not furnish nearly enough for the inhabitants, several of whom make candles for themselves, or are supplied from other places. Implements of husbandry, especially ploughs, carts, hay-rakes, and of late thrashing-machines made here, are carried to the neighbouring counties. A good deal of timber, also, was some time ago *blocked* or shaped coarsely for different purposes, particularly for carts, and sold in that state to be dressed and put together elsewhere; but the cartwrights find now more constant and profitable employment. The clear profit gained on the articles mentioned in this paragraph are estimated at L. 800 in the preceding section.

SECT. VII.—*Poor.*

EVERY thing of importance relative to this subject has already been anticipated. The number of the poor, the way and the amount of their maintenance, and their ability in general to earn something for themselves, have been mentioned in Chap. IV. Sect. 4. p. 254 : And the remarks made

* Stat. Acct. of Selkirk, Vol. II. p. 349.

† p. 217.

made on vagrants, in the Account of Roxburghshire, p. 218, hold equally true with respect to this county. Beggars of that description become always the greater nuisance, in proportion as places are lonely and remote from aid. Their tales impose upon the simple, or their numbers and their appearance overawe the timid. It would appear, that a spirit of extravagance and dissipation has infected the lower ranks in the parish of Selkirk *, and that they expend most of their wages on finery and pleasures, in a dependence on receiving support from the parish in poverty and old age. Though a few instances may occur of a similar spirit in other places, yet this is not the general character of the poor through the county. They consist mostly of such as are infirm, from constitution, fixed diseases, or hard labour; or of the old, whose frugal savings have been all expended on the education or perhaps distresses of a numerous family, or on their own sustenance after having been set aside from work. It cannot, however, be doubted, from the experience of a neighbouring kingdom, that poors-laws have a tendency to relax diligence and economy among the lower orders of society, though this baneful effect has hitherto been only slightly felt in this corner. Other evils, also, arising from them, have sometimes appeared here. Children, brought up by the parish, when in circumstances to spare a little of their earnings, have refused to assist an aged mother, under pretence that she has no occasion to be ashamed of applying for subsistence to herself, as she discovered no shame in asking it for them. The idea is daily taking a deeper root, that maintenance from the parochial funds is not charity but the legal right of the poor, as much as the possession and rents of their estates, are the rights of the rich: and it is manifest that this idea, when cherished by the poor, must naturally overcome all delicacy

* Stat. Acct. Vol. II. p. 444, 5.

in demanding what is accounted their own. Many of the middling classes, who pay little or no poor-rates, are forward both to encourage the claims of the poor, and to urge an enlargement of their allowance, from a desire of touching the purses of rich proprietors who do not attend the church, and of their tenants, who in general are able to bear these burdens. But the influence of these various considerations is only beginning to operate in this county, and its small progress is evinced by the little decrease that has as yet taken place in the weekly collections in the Established Church, which continue to bear a very fair proportion to the number and circumstances of the audience. It is an object of national importance to preserve these voluntary contributions as large as possible, and it is particularly the interest of those in the higher ranks of life, who cannot or at least do not attend public worship, to shew a pattern of liberality in this respect. They may be assured that the poor, till their minds are perverted, have an honest pride, which makes them shy of accepting charity, but forward to claim a right.

SECT. VIII.—*Population.*

THERE is no small difficulty in ascertaining the precise state of the population, both in 1755, when Dr Webster made his inquiries, and at present. No regard was paid to the limits of different counties, either in the returns made to him, or in the Statistical Accounts lately published. In constructing the subjoined table, I have therefore been reduced to the necessity of having recourse to conjecture and calculations, equally applicable to both periods, the foundations of which it is my duty to explain. By the valued rents of the parishes of Ashkirk and Robertson, only about two-sevenths of them belong to this county, and that proportion

portion of their population in the two periods is assigned to it. The inhabitants of those parts of Selkirk and Galashiels parishes, which lie in Roxburghshire, having been lately enumerated, are subtracted from the population in 1790,—1, and a proportionate deduction is made from the population in 1755. A computation is made of the probable number presently residing in Stow and Innerleithen parishes within this county, and the same number is allowed to that district of these parishes in the 1755. The whole of Ettrick and Yarrow parishes being in this county, their population is given as in the Statistical Account.

PARISHES.	POPULATION		VALUED RENT.		
	in 1755.	1790, 3.			
			SCOTS.		
			L.	s.	d.
Selkirk, — — —	1650	1650	14644	13	4
Galashiels, — — —	850	780	5891	6	8
Yarrow, — — —	1180	1230	31377	9	8
Ettrick, — — —	397	470	15958	3	6
Roberton, $\frac{2}{3}$, — —	186	180	3475	13	4
Ashkirk, $\frac{2}{3}$, — —	179	156	1866	13	4
Stow, — — —	150	150	4910	2	4
Innerleithen, — — —	30	30	1841	0	0
Peebles, — — —	none.	none.	343	13	4
	4622	4646	80307	15	6

Increase since 1755, — 24.

It must give sincere pleasure to every friend of his country to find, that, amidst the ruinous consequences ascribed to large farms, and all the common subjects of murmuring and complaint among the discontented, her population is increasing,

increasing, not only in districts where manufactures and commerce flourish, but in an inland county where there is little of either, and in those parts of that county which are almost entirely pastoral. For it is not a little remarkable, that, in the parishes of Ettrick and Yarrow, where a very small quantity of corn is raised, and where every kind of manufacture is altogether unknown, there are more inhabitants than there were forty years ago, while there are fewer in Galashiels, where there is a thriving manufacture. This is one of many curious facts, which deserves to be brought forward to public notice, as the best answer to speculative declaimers on our national decline. It is the general opinion, that, by the union and extension of farms, the country is depopulated and ruined, while the inhabitants, driven into great towns, and employed in manufactures, lose their health and their morals. The latter part of this opinion may be well founded; but the former part of it is not confirmed by the increasing population of those districts, both of this county and of Roxburghshire, where the accumulation of farms is most prevalent. I mean not either to justify the practice, or to deny that it is frequently the cause of depopulation. I mean only to assert that this is not always the case, and, by holding out a strong exception in this corner to an opinion which seems to have obtained currency without examination and proof, to assist others who have better opportunities in their inquiries into its truth. Perhaps it will be found, that large farms, and in some cases two farms in the hands of one man, are rather an advantage than an injury to such counties as those of Roxburgh and Selkirk, but that the practice, when carried too far, degenerates into an abuse, and becomes truly hurtful to population, the fundamental support of society. There is always a happy medium between opposite and dangerous extremes.

AGRICULTURAL SURVEY

OF

ROXBURGH AND SELKIRK SHIRES.

CHAP. XVI.

OBSTACLES TO IMPROVEMENT.

THE principal obstacle to improvement is distance from fuel, manure, and markets. Farmers are obliged to occupy their horses so much, in carrying the grain and wool which they export, from twenty to forty-five miles according to local situation and particular circumstances, and in bringing most of the necessary articles for the use of their families and the melioration of their fields from afar, that they are unable to enrich and keep in tillage as many acres, and pay as high a rent as might otherwise be expected. The number of work-horses in Roxburghshire is stated at 3684. But from the Surveyor's remarks it appears that most of the carriage and saddle-horses and some horses under size are frequently employed in husbandry, which, by a moderate computation, will swell the number of actual work-horses to 4496, and still leave 500 for the sole purposes of riding and going in chaises. The number of acres

supposed to be annually in tillage being 98,422. (Chap. VII Sect. 4.) the average is scarcely forty-four acres for each pair of horses, without any deduction for what may be ploughed by 20 or perhaps 25 pair of oxen: whereas, if freed from long carriages, every farmer knows that a pair could manage at least sixty acres of easy-wrought soil like that which mostly prevails in these counties. In Selkirkshire, the number of draught-horses is 474, and the acres annually in tillage are about 7800; there are consequently not quite thirty-three acres to each pair of horses. And were the horses of carriers, cadgers, and jobbers, taken out of the account in both counties, the averages would not be much affected, because most if not all of these people have more or less land, and besides their horses are often employed in bringing coals and manure and in other kinds of labour, all of which would otherwise devolve on the horses of farmers. This evil has been in part remedied by the excellent roads made in many different directions; but it never can be entirely removed till fuel and manure are obtained at a reasonable rate and with little labour, in the centre, and in different parts of the counties.

It is obvious that this inconvenience must be more severely felt in particular local situations than in others. The roads to several places are almost impassable during a great part of winter, and the inhabitants are obliged to devote the whole time and labour of their horses and servants, through summer, to lay in their annual provision of fuel. Hence weeding corn, hoeing drilled crops, fallowing and manuring land, and every improvement in husbandry, for which summer is the proper season, become only secondary operations. Farms, in these circumstances, cannot yield as high a rent as they would do if this necessary article was brought within their reach at every period of the year; and it is, therefore, the interest of proprietors to bestow the

the same laudable attention upon the cross-roads, which they have already paid to the great and direct ones. Farmers in other places labour under the disadvantage, of being denied access to marl in their immediate neighbourhood, because it belongs to another proprietor, and of being reduced to the necessity of wanting that useful manure altogether, or of bringing it from a great distance at a prodigious expence. They must consequently manure a less extent of ground annually, give a less allowance of marl to the acre, and pay less rent, than their more fortunate neighbours. And, in such cases, when landlords cannot purchase the privilege of getting marl from the contiguous pits, they will increase their rents, by paying the prime cost of all the marl laid upon their land during the first three or four years of a lease, and by keeping the road in good order by which it is carried. Some local hardships cannot be overcome without much difficulty and expence. The river Tweed is a formidable bar to the improvement of that large track, which lies along its southern banks from the village of Lassuden towards the neighbourhood of Kelso. Most of it is susceptible of being substantially benefited by marl, and a copious fund of that valuable substance is now opened for sale at Whittrig, on the opposite side of the river, scarcely three miles from some and not more than six miles from any part of the track to which I allude. Yet carts, from those parts of Roxburghshire which lie north of Tweed, can go one journey each day to the pit more than carts from places at the same distance on the south of it, and consequently must save from one-half to one-fourth of the labour, according to the number of journies made in a day. The different proprietors of this track will act a wise part by uniting their endeavours to throw a bridge over Tweed at some safe and convenient spot, in which they cannot fail to be vigorously supported by the proprietor of the marl, who

who thereby must gain L. 400 or more annually for many years, and in which they will receive countenance and assistance from all the neighbourhood as a measure of public utility.

These obstacles by no means prevent improvement: they only circumscribe its limits, and retard its progress; and other obstacles, more easily surmounted, lend their aid to clog its wheels. Scarcity of labourers has frequently prevented many fields from being inclosed, cleared, and drained so quickly, the fences and drains kept in such good order, the drilled crops so regularly and completely hoed, and the grain so soon thrashed, as the tenant wished. There have also been instances of labour stopping, till a carpenter or smith came from a distance to mend some implement, or till the implement was carried to their workshops and brought back. To remove these inconveniencies, gentlemen should encourage labourers and artificers to settle on their estates, by accommodating them with decent dwelling-houses and workshops; and tenants should assist them in bringing home their fuel and necessary provisions. This indeed would increase the labour of their horses: but the lesser evil must be borne to avoid the greater.

The practice of selling staple commodities of the counties, by contract at the same stipulated price for a number of years, deserves reprehension, as hurtful both to improvement and to the interest of farmers. They cease to bestow pains upon meliorating the quality of the hay, grain, or wool thus sold, and are only anxious to deliver a large quantity to the purchaser in such a state, however coarse, as he cannot legally challenge. Wool especially is liable to suffer materially from the load of tar used to increase its weight. When such bargains are disadvantageous to farmers, they are always rigorously exacted by the contractor, or by his creditors should he fail; and when favourable to farmers,

OF ROXBURGH AND SELKIRK SHIRES. 3

farmers, they are fulfilled by the other party with a grudge. Some abatement is expected, many shifts are tried to elude or break them, and in case of his bankruptcy, they are at end. They are less pernicious when the price is left to be regulated annually by the common rate of the market. But the true spirit of agriculture, as well as of commerce, condemns every kind of shackles upon buyers and sellers, till the goods are ready to be produced; and it is then the mutual interest of the one to give and of the other to take the current prices of the day.

The progress of improvement is also retarded by the shortness of leases on arable farms, and by absurd restrictions on them. This subject being of national importance, I hope the public will receive with indulgence the following general observations upon it:

One great object with gentlemen, when letting their farms, should be the character of tenants for good sense, agricultural skill, and successful management. They should also have regard to the education, which young farmers have received in other arts as well as husbandry, and to the indications which they give of application and relish for the employment. It is not probable, that such men will suffer themselves to be outbid by the ignorant and unskilful, where there is a reasonable prospect of sufficient profit. In all competitions, they may be supposed to offer as much as the land, by every exertion of ingenuity and judgment, can be expected to afford. And landlords will find it more for their interest, on the whole, to prefer them, on somewhat of a less rent, to others, who may either hurt their farms by injudicious cropping, or bring them into disrepute by becoming bankrupts.

With tenants of this description, restrictions are not only unnecessary, but cumbrous fetters on industry and genius.

When

When a rigid rotation is prescribed in a lease, all distinction is nearly destroyed between a man of sound and of weak parts; no room is left for enterprise and improvement; the tenant is a mere puppet moving on wires and springs as directed by his landlord. Being, by his restrictions, sometimes deprived of solid advantages, and at other times subjected to serious losses, he cannot pay so great a rent, or make his land so productive, as those who have a discretionary power, or at least are exempted from an arbitrary and invariable rule of cropping. There are, however, certain general restrictions of a salutary nature, to which every sensible tenant will readily submit. For it is equally his advantage and that of the proprietor to have the farm regularly dunged, and kept in good condition by a proper intermixture of green and white crops. While these are left to his own option, he can have no objection to become bound, "to manure the whole ground in its course, to "keep one-half or at least one-third of it always in green "crops, never to take two white crops successively, except "on some very particular occasion and on some particular field which cannot be much hurt by them, and to "follow the same gentle and profitable system of alternate "green and white crops with regular dunging, without "variation, to the end of his lease."

Another maxim, which should be observed in all leases, is to save the tenant, as much as possible, from laying out money or employing his horses, especially towards the beginning of a lease, in any way whatever, except in improving and working his farm. On this principle, all the houses at his entry should be built or repaired at the sole expence of the landlord, without subjecting him to carry the materials or to maintain the workers. He likewise should be exempted from paying any share of the prime cost of making inclosures, but should be charged with interest

terest on the sums thus laid out, and with one-half of the expence of upholding the fences. With the same view, I would suggest the propriety of a progressive instead of a fixed rent, in every case, where it is requisite to lay out a good deal of money on the improvement of a farm, and where some time must elapse before an adequate return can be obtained. On a lease, for example, of twenty-one years at L. 300 a-year, the proprietor will receive during its currency precisely L. 6300 Sterling. What an advantage would it be to the tenant, were he to pay only L. 200 annually for the first five years when he is much out of pocket meliorating his farm, L. 300 for the next six years when it begins to repay his expence and labour, and L. 350 for the last ten years when he reaps the full benefit of it? The sums and the terms may be varied, according to circumstances. It is the principle for which I contend. For the use of a little money, when a tenant is at great expence improving land, is the most essential service which he can receive from his landlord. He will be much abler to pay a large rent towards the close of his lease, than a small one at the commencement of it.

Much has been said concerning the duration of leases; but nothing should depend more on the nature and condition of different farms. In sheep-pastures, which admit of little improvement except open drains, the length of leases is of less consequence; though even for these, farmers will give more rent, and will bestow more attention on their houses, their gardens, and the fields around, when secured against all risk of soon changing their residence. Nor is a long lease of much importance in an arable farm already brought into high cultivation, especially if there be a command of dung either in the farm itself or in the neighbourhood. Three full rotations, whether of four or five years, may amply recompense the tenant, and afford the landlord an opportunity

opportunity of going again to the market for an advance of rent. But such short leases, besides rendering tenants indifferent about the decoration of places which they may soon be compelled to quit, really shut the door against all useful experiments, and in a manner forbid all deviations from the beaten path. As the best lands are susceptible of the speediest and highest improvement, they are fittest for trying the success, both of foreign grains and plants brought from a warm climate or rich soil, and of new modes of rearing common crops to greater perfection. But who would run the risk, without a sufficient length of lease, to indemnify him in case of failure, and to reward him in case the undertaking should prosper?

The leases, then, of all arable farms should be of considerable length, but the precise period of their continuance must be determined by the state and extent of the ground, the expence, and the time requisite for its melioration. An extensive farm, whether in a state of nature, or impoverished by bad management, cannot be put into good order in a few years, or at a trifling expence. At an average through the whole of these two counties, from L. 6 to L. 15 Sterling must be allowed for manuring and labouring every acre of this description; and a pair of horses could not fetch the medium allowance of lime or marl to more than sixteen acres in a year, give these the necessary ploughings, remove the stones, and straighten the ridges. Supposing a farmer to keep ten extra horses for the sole purpose of carrying manure, they could only lime or marl properly from 130 to 160 acres, and six horses more would find it hard work to ridge and dress these as they ought to be, for a year or two till they are reduced to a manageable form and mould. Now when sixteen horses can only thus break and put in order at most 160 acres annually, it is easy to compute the time when farms of different extents, according

ing to the strength of horses in each, can be completely brought under a regular and profitable system of husbandry, and the vast expence which tenants must lay out for many years before they can be reimbursed. Hence arises an argument for proportioning the length of leases to the time and cost of enriching all the land with manure, giving it the necessary tillage, freeing it from weeds and stones, draining and inclosing it. After a reasonable allowance of crops to refund the expence of these spirited and beneficial operations, the tenant should enjoy at least three if not four complete rotations of every acre he has improved. And in general, the farther that such farms are from the means of improvement, the greater that the difficulties are which must be surmounted, so much the longer should be the lease, or else so much the lower will be the rent.

Here it may not be improper to observe, that want of attention to these considerations, on the part both of masters and tenants, has driven many of the latter to the pernicious expedient of obtaining money, by discounting bills payable at a short date. Setting aside the difficulty under which they often laboured to procure real signatures, and the necessity to which at other times they were reduced of affixing fictitious names to these bills, it was certainly, in its most favourable shape, an unwise measure to borrow money, at the extravagant rate of paying 5 *per cent.* of interest six or seven times in the year, instead of once, and of having it deducted out of the sum they received, instead of enjoying the use of both principal and interest till the stipulated term of payment should arrive, besides being subjected to the expence of all the stamped paper required, and of frequent journies to the nearest market-town to transact the business. A cash-account with some Bank or Banking Company, to which many of them have recourse, is a more reputable and less expensive mode of attaining the

same end, but is only within the reach of those who find sufficient sureties. In both these ways, a very great deal of money has been raised to be laid out on the melioration of land; and tenants, while thereby they improved the face of the country, have been amply compensated for their risk, except in a few instances, where their resources failed before their farms had time to yield profitable returns. In such cases, though the support of friends and the indulgence of creditors have saved from impending ruin a few worthy characters, whose persevering industry has now placed them in easy circumstances; yet the evils, which some have brought on themselves by getting too easy credit, and others by dabbling in the ruinous traffic of accommodation-bills, strongly suggest the propriety of granting lenient terms to tenants at the beginning of their leases, that they may not be so much exposed to these dangers. The more money that is then allowed to remain in their pockets, the less occasion will they have to borrow it on disadvantageous conditions.

Leases for one or more lives are common in England, but have seldom excited a spirit of improvement either there, or in some parts of Scotland where the same practice was adopted. A few proprietors, however, and farmers here are of opinion, that such leases may be added to those for a fixed period, at an advanced rent and upon a plan of farming beneficial to the land, much to the advantage both of masters and tenants. The former, it is alleged, get their lands put and preserved in such excellent order, and all the buildings fitted up in such a commodious and substantial manner, as to ensure them of a great increase of rent upon the tenant's death, or of a handsome price in case of a sale. While the latter sit down with the comfortable thoughts of not being driven away, in old age, from the fields which by their exertions had become beautiful

tiful and fertile, from the habitations which they had been at pains to render convenient and agreeable, and which to them have additional charms from having been the scene of conjugal felicity and domestic endearments. After having passed the meridian of life, and entered into the vale of years, how hard is it to be under the necessity of seeking a new home, and of beginning the laborious and persevering improvements of agriculture upon a strange soil! How much pleasanter to be secure of remaining, during the whole of their lives, even at a stretched rent and under severe restrictions, in the place where they spent the prime and strength of their days, and where every surrounding object recalls to remembrance the joys that are past *!

To the force of these considerations I am not insensible, though they certainly are addressed more to the feelings than to the reason of men, and are better calculated to move than to convince. They represent a lease for his life as a desirable object to a tenant. But in deciding the general question concerning the propriety of such leases, the

* This language is held by Mr Dawson, so often mentioned, who himself took a lease for a certain number of years with the addition of his lifetime at a higher rent, and under a strict system of management highly favourable to his farm, and who, from his perfect knowledge of the subject, could recommend the plan more clearly and forcibly, than from the recollection of his arguments I have done in the text. It is with regret that I differ from him on this point as well as on many others. But I cannot take my leave of him, without expressing, in this public manner, my thanks for his liberal information and corrections, which difference of opinion did not provoke him to withhold. Every lover of agriculture must be pleased to hear, that this acknowledged Father of it, in these parts of the united kingdoms, lives in ease and affluence, the just reward of his patriotic exertions for the good of his native country. What nobler encomium can be bestowed on our excellent constitution, than the protection and security, which every man of merit enjoys, in thus reaping the happy fruits of his talents, his knowledge, and his labours!

the interest of both parties must be equally and fairly regarded : And that they are advantageous to a landlord is by no means clear : the contrary may rather be inferred from the tenor of the argument in their favour. A great increase of rent is held out to him upon the tenant's decease ; and yet the tenants are supposed to pay rents that are amply sufficient for their farms, and even somewhat exorbitant, for the privilege of having the remainder of their lives added to the fixed length of their leases ! Is there not a manifest contradiction here ? Must not the tenants for life sit on very easy terms, when their successors can afford to give much higher ones ? Or if the former tenants actually paid the full value of the lands, who would be so foolish as to give more ? If farms, at the expiration of such leases, fetch a considerable advance of rent, is it not evident that the preceding tenants have had lucrative and the proprietors losing bargains ? It is only, therefore, where the rent is stationary or the advance is trifling, that the latter can be gainers by giving leases during the lives of the former. Nor can the increase of rent be justly attributed to the gentle treatment of farms prescribed to such lessees. For the mode of management, which during any considerable length of time is most favourable to land, is also most beneficial to the occupiers of it. And, in this respect, the possessors of farms, formerly held on lifetime leases, generally exceed their predecessors. Besides, on every sound principle, all covenants should be explicit and express, and subjected to limitations both as to their extent and duration. The quantity of goods and length of time are always distinctly and precisely specified by sensible and sure dealers. In no contract is it more essential to adhere to this rule than in a lease ; and while every other condition in it is accurately and positively expressed, why is its continuance, of all its clauses the most important, left indefinite

finite and dependent on accidental circumstances? A lease of this nature, at a low rent, is perhaps the most delicate compliment, which can be paid to a trusty servant or an unfortunate friend, because it is an independent establishment during the remainder of their lives. But such a lease to a stranger, who, however deserving, has no particular claim to favour, though he may offer more for it than appears at the time to be a full equivalent, is objectionable on the score of its uncertain termination. The proprietor or his heir knows not when he shall be at liberty, to build a dwelling-house for himself on some eligible spot in this farm, to include a part of it in his pleasure-ground, to alter its boundaries so as to render it and other farms on his estate more compact and commodious, or to prosecute some favourite scheme to the completion of which it is necessary. If he should expose it to sale, who would give an adequate price for a place, however charming, when the period of entering into possession of it is altogether indeterminate? Had the length of the lease been fixed, both seller and purchaser could know how long they had to wait. Or the proprietor might calculate its value, and try to buy it at a reasonable rate to carry forward any of his projects. But what price can tempt a lessee to give up a place for which he has a stronger attachment than what arises from its intrinsic worth, and whose chief inducements for retaining it are, the pleasure of rejoicing in the works of his former days, and the desire of descending into the grave amidst objects, which have become the companions and solace of his declining years? These considerations render it at least doubtful how far leases ought to be granted during the lives of tenants. The interest of the proprietor must be laid in the balance against that of his tenant, and the hardship, to which the one is subjected by being secluded

from

from possessing his own, must be contrasted with the hardship of turning the other adrift in his old age.

If in these observations I rather appear to lean towards the side of the landlords, in another article, which they commonly insist upon in leases, I am decidedly against them. Why should a tenant, after expending a good deal of money, and bestowing much pains upon the improvement of a farm, be secluded from disposing of his lease either for a stipulated sum or at an advanced rent? In point of justice, he should be allowed to turn his capital, his industry, and his time to the best account. In point of sound policy, he should be encouraged in his laudable exertions to extend the practice of good husbandry, by enjoying the full rewards which it yields in whatever manner he may prefer, that is not unfair or injurious to others. And, in point of humanity, he himself if in bad health, or, in case of his death, his widow and young children, or his heirs whoever they are, should not be compelled to retain in their own hands a lease, which may be unprofitable, from his inability to superintend the farm, or from their ignorance and unskilful management, but which could be sold to great advantage. To these powerful motives, nothing of any solidity is opposed, but the chance of the purchaser, or *subtenant* as he is here called, proving a disagreeable neighbour to the proprietor or the farmers around. But this objection will lose much of its weight, when we call to mind, that people are very likely to become bad neighbours, when constrained to remain in a place against their inclinations and contrary to their pecuniary interests; that the presumption can scarcely be so strong against any purchaser or subtenants, because farmers of good character, especially for ingenuity and diligence, are generally the highest offerers, that there is at least equal if not greater probability of their being good neighbours than bad ones, and that

that even supposing the worst, the hardship is less upon a landlord to have a troublesome fellow fastened upon him for a few years, than upon a tenant to be debarred from accepting an advantageous proposal, by which he would be enabled to push forward similar operations in agriculture elsewhere with greater success, or upon his survivors to have the fruits of his expensive labours snatched out of their hands. In every view, therefore, of justice, policy, and humanity, tenants should be allowed to make the most of their leases, under the restrictions previously mentioned, and with the reservation of giving the first offer to the landlord of such as are exposed to sale, at the expected sum or advanced rent.

On the bad policy of giving no leases, I have said enough in Chap. IV. Sect. 5. p. 255, 6. of the Survey of Selkirkshire: And the pernicious practice, of taking a sum of money from a tenant at his entrance to a farm, and giving a proportionable deduction of the rent, is so diametrically opposite to those liberal principles which I have attempted to establish as to require no further notice. I have only to add, that, in the preceding reflections on leases, I have paid no further regard to the interest either of landholders or farmers, than appeared to me, on a general view of the subject, to be for the real good of the country. No prejudices on either part, no temporary accommodation of individuals should obstruct the advancement of agriculture, that primary source of national nourishment and prosperity.

CHAP. XIV.

MISCELLANEOUS OBSERVATIONS.

SECT. I.—*Agricultural Societies.*

SEVERAL Agricultural Societies were formed in different parts of these counties, but they were all of short duration. While they lasted, they were pleasant meetings, and of considerable use in diffusing information and exciting a spirit of emulation. Though a variety of accidental circumstances in different places contributed to put an end to them, yet all of them every where fell into one common error which accelerated their downfall. They were held on the market-day, with a view of accommodating the farmers who had occasion to be in the place that day on other business; the consequence of which was, that from the beginning to the end of the meeting, the servants were continually calling out one member after another, who naturally preferred the settlement of a heavy account, the making of an advantageous bargain, and above all the receipt
of

of money, to the most interesting debate or conversation, from which they could only eventually derive profit at a future period. This inconveniency was not removed by the Society dining together: for the calls were generally as frequent after dinner; and the company sometimes sat so late that it was archly said they did more service to the inn than to agriculture. To this sarcasm it may be replied, that they who are fond of a glass will seldom want a specious pretence for taking one, and that, of all pretences, the acquirement of useful knowledge in the line of their occupation is undoubtedly the most tenable:

An association of a different nature, though intimately connected with agriculture, was lately formed in Roxburghshire, and there is a prospect of its being extended to the other county. The object of it is to detect and prosecute felons, and the following is the substance of its principal regulations:

1. " That it shall be binding for seven years.
2. " That a fund shall be raised, by annual subscription, for defraying the expence of apprehending, and prosecuting to conviction, any person or persons, suspected of murders, robberies, or any other kind of felonies, or petty thefts, committed on the persons or property of any of the subscribers of this association.
3. " That the sums subscribed shall be regulated by the rent of the respective possessions of subscribers; and to be, for the ensuing year, at the rate of 2 s. 6 d. for each L. 100 Sterling: Subscribers possessing less than L. 100 also to pay 2 s. 6 d.; and subscribers possessing more than L. 50 above any even L. 100, to pay for an additional L. 100. The first year's subscription to be paid at the time of subscribing; and the subscriptions for the following years to be paid to the treasurer for the time, within three

" months after the general annual meeting on the second
" Tuesday in the month of April.

4. " That any person of the description before-mention-
" ed, (*i. e.* heritors and farmers) may, upon obtaining the
" consent of the committee and subscribing, be admitted
" members of this association. And if any subscriber, du-
" ring the said period of seven years, shall remove with
" his property out of the county, in that case the associa-
" tion shall have no further claim upon him, nor shall he
" have any benefit from the said fund or institution.

5. " That A. B. &c. &c. or any five of them, be a
" committee for the ensuing year, to carry into execution
" the resolutions herein contained, and to transact every
" other necessary business of this association, to meet at
" Jedburgh upon the second Tuesday in the months of Ju-
" ly, October, and January next; the committee to be
" chosen annually at the general meeting of subscribers.
" And if the association shall become general through the
" county, it is proposed that one member of the committee
" shall be chosen from each parish.

6. " That in case any murder, robbery, or theft shall at
" any time during the continuance of this association be
" committed on the persons or property of any of the hinds,
" herds, or other servants or cottagers belonging to subscri-
" bers, the committee shall carry on prosecutions at the ex-
" pence of the association.

7. " That for more effectually preventing any of the
" said crimes, if any member of this association shall, at
" any time during the said term, lodge, harbour, or con-
" ceal any person or persons suspected of being guilty of
" any of the crimes above mentioned, or any strolling va-
" grants, or other loose, idle, or disorderly persons, such
" subscriber shall, in that case, forfeit all right to the
" funds

" funds of the association, and shall no longer be considered as a member thereof.

8. " That the committee shall have power to call a general meeting of subscribers, at any time they may find necessary, to alter these or add new regulations as may be thought proper; and any three members may call an extra meeting of the committee for the time.

9. " That when any member of this association shall have any of his property stolen, he shall be allowed 3 s. *per* day for each servant and horse employed in searching for the same, if they are not a night from home; and if they shall be one or more nights from home on that business, they shall be allowed 5 s. *per* day. These allowances to include every expence.

10. " That any member, having property stolen, may offer a reward of L. 5 Sterling, in the name of the association, to the person or persons who will discover the offender or offenders; and if the property stolen be sheep or horses, he may offer a reward of L. 20 Sterling.

11. " It is recommended to subscribers to be particularly attentive to the marks of their horses and other property, so as to be able to describe them with precision; and upon any of them being stolen, to send immediately as many of their own servants as they can spare in the pursuit and search, carrying with them descriptions of the property stolen, to be left at the turnpike-gates and other places they may think proper; the servant or servants to be entitled to the reward offered, upon apprehending and convicting the offender or offenders.

12. " That these resolutions shall be printed, and distributed in the different parishes of the county, in hopes of preventing any of the above crimes being committed, by showing offenders the great improbability of escaping
" the

“ the punishment due to them, the association having unani-
“ mously agreed to enforce their resolutions to the utmost
“ of their power.”

The design of this association is undoubtedly laudable, and the regulations are well adapted to promote it. The rent, indeed, in some instances, is disproportionate to the stock or property on the farm which is liable to depredations; yet, in general, it is the best rule which can be adopted for ascertaining the annual rates to be paid. It might be an improvement on the plan, if *heritors* (proprietors of land) were to pay, not only as farmers for what property in cattle or corn they may have upon the land in their own possession, but also some trifle more or less according to the rents they receive, as this would both interest them more in protecting their tenants, and be a greater check upon offenders. There is perhaps something narrow and exclusive in confining the privilege and benefits of the association to a single county, especially to one irregular like Roxburghshire, where several places in other counties are much nearer to the county-town than a large portion of itself is. Yet it is extremely difficult to fix on any other limits so distinct and proper. And on the whole, though there may be some room for amendment, there is certainly much more for commendation.

SECT. II.—*Weights and Measures.*

A TABLE of these in both counties is given in the introduction. It may not be improper to mention, that, with respect to all articles sold by the heavy Scotch or trone weight, purchasers have seldom cause to complain of injustice.

justice. In buying large quantities of hay, wool, or cheese, the scale is always largely turned in their favours, besides what is spontaneously thrown into the bargain. But they receive very little or no allowance of this nature when any other kind of weight is used.

The absurd practice of giving an addition *gratis*, generally of the one and twentieth part of the quantity sold by measure, weight, or numbers, and sometimes more or less, which once universally prevailed in all this neighbourhood, is not wholly given up. Twenty-one bolls of grain were regularly delivered, though the price of twenty was only received, probably to answer the multure which either seller or buyer were bound to pay at a particular mill; and such families, as are thus adstricted, continue at this day to send as much grain of every kind, as will satisfy the demands of the miller, above the quantity to be ground for their own use; though now a boll is seldom added to the score when grain is sold. It is still usual in several places to give a pound of *incast*, as it is here called, to every stone of wool, and a fleece to every pack sold, a sheep or lamb to every score, and an additional one to every hundred. Part only of this incast is allowed by many sheep-farmers, and most of them have very judiciously abolished it altogether. It is reprehensible, as being a fallacious way of selling their most valuable commodities, thereby deceiving strangers with regard to their real price, and likewise as being impolitic, by leading landlords to form too high ideas of their profits and to expect too great an increase of rent. By selling five score of sheep at L. 20 *per* score and delivering 106, they get only 18s. $10\frac{4}{5}$ d. for each sheep instead of 20s. the nominal price. In like manner, by giving 17 pounds for every stone of wool they lose a seventeenth part of its weight, and every fleece added to a pack is a further deduction more or less from the price,

which

which they appear to receive in the eyes of every person unacquainted with the manner of managing the transaction. Whereas, by abolishing this injudicious practice, and by selling a greater number of sheep at a lower rate, they would not be repented so great gainers, and yet put more money into their pockets.

The proposal of selling all grain by weight instead of by measure, if carried into effect, would be productive of many advantages. It would prevent much of the confusion which is occasioned by the present diversity of measures; it would ascertain the quality of grain by its weight in a common tub or vessel; and it would check abstraction and fraud by letting every body know to a trifle what return he had a right to expect from the mill. To extend it to vegetables also would render it a still greater service to the public.

CONCLUSION.

MEANS OF IMPROVEMENT AND THE MEASURES CALCULATED FOR THAT PURPOSE.

To remove the obstacles to improvement is certainly the first step to promote it. To what has already been observed on this subject, little remains to be added.

Entails are commonly reckoned the bane of agriculture, and the abolition of them has been frequently suggested and warmly recommended. But how can this be effected, when so many great families possess entailed estates and stand in the

the entail of others? If every inch of property in the kingdom was subjected to a strict entail, and rendered incapable of coming in any shape to sale, perhaps the general inconveniency, thus created, might reconcile all parties to the repeal of the acts authorising entails and to the total extinction of the practice. In an agricultural view, entails may be more or less hurtful according to the restrictive clauses they contain. And a late act of Parliament, made with a view of improving entailed estates for the benefit both of the present proprietor and his heirs of tailzie, imposes so many and such hard terms on tenants, that no farmer of sense and spirit would take a lease under it. That a law might be made to mitigate the mischievous effects of entails on good husbandry, without altering their nature or their spirit, I cannot take upon me to affirm or deny. But a law putting an end, to such entails as forbid leases of a moderate length to be granted without absurd restrictions, and to the disgraceful practice of selling a long lease at a low rent for a large sum, to enrich the present proprietor and to impoverish his successors, might undoubtedly contribute, in various respects, towards the improvement of the country. Tenants, on such estates, would be on a footing with their neighbours, would obtain leases on the same equal and encouraging terms, and would not be tempted to give away their substance and live meanly themselves, for the sake of purchasing and leaving a long lease of a fine farm at less than half its value to heirs, who, by having little rent to pay, would be deprived of one great motive to industrious exertions, and might sink into inactivity, sloth, and dissipation. All proprietors should be perfectly free to let their lands on such equitable and meliorating conditions, and during such a competent period, as would make their tenants easy and comfortable, and secure a gradual and reasonable

sonable increase of rent to themselves, and those who are to come in their place.

Intercourse by good roads, to places where the produce of the counties might be disposed of to advantage, is an important encouragement to improvement. And besides those already made the following ones would be of great utility. There is already a pretty good road from Canoby (about six miles south of Langholm on the road between that place and Carlisle) to the lower parts of Liddesdale, and it is proposed to apply immediately for a turnpike act, to make a road from thence to Jedburgh by Hermitage bridge and Note of the Gate, which is already nearly completed, and also a line from said bridge over Hermitage, by the Limekilns to Hawick, by which a considerable district of country will be supplied with coal and lime with less trouble and expence than at present; and the above line from Jedburgh will save travellers in going to Carlisle a distance of 12 miles. A road from Jedburgh, in the nearest line to Wooler, would open up a communication to Morpeth and the most fertile and best cultivated parts of Northumberland, and facilitate the exportation of fat cattle, sheep, and wool, and the importation of several necessary articles. A bridge thrown over Tweed, as already suggested, besides affording ready access to the marl at Whitrig and a shorter cut to Edinburgh from several places, lies very much in the line between Jedburgh and Greenlaw, and might eventually lead to the formation of a direct road between them. If the road, lately made from Kelso to St Boswel's Green, was continued to Selkirk and from thence to Moffat, a good deal of grain would find a new and profitable market in the higher parts of Dumfries-shire. With the exception of Liddesdale, no part of these counties stands more in need of good roads, than Lilliesleaf and those places on both sides
of

of Ale-water which lie between it and Ancrum. This want might be in a great measure supplied by a road from Selkirk to Jedburgh, crossing Ale-water near Clarilaw, and keeping its south bank to Ancrum, from which there is a good road to Jedburgh. There should also be a good road made from Lilliesleaf by the west end of Bowden to the bridge over Tweed near Melrose. Coals and lime might then be brought, both from Mid-Lothian and the N. E. parts of Northumberland, and corn carried to the markets of Dalkeith, Peebles, Kelso, and Berwick, with great ease at any season, whereas at present the access to and from that district is often difficult and precarious during winter.

There seems to be a serious resolution of striking out a road from Kelso to join the road to Edinburgh by Cornhill about five miles W. from Greenlaw, which will be more level and nearer than the present one by Smailholm and Lauder. A road has also been talked of from Edinburgh to Langholm, in a new and direct line, leaving the one by Selkirk and Hawick at Middleton, and proceeding through the lower parts of Tweeddale and the higher parts of Selkirkshire, either to Moss Paul, or along the Esk by Eskdalemuir to Langholm. But such a road, through a hilly country thinly peopled, little of which is susceptible of cultivation, though it would certainly be a saving of 12 or perhaps of 15 miles, and might be of much service to the inhabitants near the sources of Yarrow and Ettrick waters, cannot be attended with advantages in any degree commensurate to the vast expence of throwing bridges over several considerable waters and numerous brooks, all of them rapid, and most of them apt to swell at times to a prodigious size, of cutting banks to lessen steep ascents, and make the road of sufficient breadth for carriages, and of fetching materials to the bridges, and in some places to the roads, from a considerable distance.

Though the safe and speedy conveyance of letters is of greater consequence in a mercantile and commercial than in an agricultural view, yet it certainly ought to be extended to every corner of the kingdom, where the correspondence of any class of subjects, especially of farmers, can produce the smallest gain to the state, after defraying the necessary charges of establishing a regular post. Yet such appointments, in this district, have hitherto taken place in a very slow and capricious manner: and there can be no doubt, that a laudable though mistaken zeal, to increase the revenue by a pitiful retrenchment of expenditure, more than a regard for the accommodation of the public, dictated the present circuitous and unproductive route. The only post, allowed to these counties either to the S. or the N. is by Berwick. Intelligence from London, or any part on the E. coast of England, thereby reaches them more speedily than by any other practicable mode. But, though they certainly carry on a good deal of business with different places in that quarter, yet nine-tenths of their postages arise from their correspondence with the capital of Scotland, and its neighbourhood. Edinburgh, being the seat of justice, of education, and of amusements, having populous environs, and requiring a large supply of the staple commodities produced in the shires of Roxburgh and Selkirk, every farmer, and indeed almost every inhabitant in them of any consideration, has a regular correspondent there, and very many of them are constant readers of one or other of its newspapers. Yet are they precluded, by a preposterous regulation, from all intercourse with it, except by Berwick, which is farther from Edinburgh than any place in either county where there is a post-office; although it is demonstrable, that, by an alteration in the arrangement at a small additional expence, letters would come so much more conveniently and expeditiously as to ensure a valuable increase
of

OF ROXBURGH AND SELKIRK SHIRES. 363

of revenue. There can be no doubt, that the more directly and quickly they are conveyed, there is the greater encouragement to use and pay for that conveyance. On this undeniable principle, I would propose that all letters and newspapers from Edinburgh, to every part of these counties, should be sent by the post who comes regularly to Lauder, and to dispatch two runners from thence, one to Kelso, and the other by Melrose and Selkirk to Hawick, with a byebag from Melrose to Galashiels. This would occasion no additional charge, except for the runner from Lauder to Kelso, 17 miles, and from Lauder to Melrose, 11 miles; all the rest of the proposed route being travelled at present: and I submit to all concerned, if there be not a strong presumption of this additional charge being amply compensated by the greater number of letters and newspapers carried by a shorter road, through a more extensive range of inhabited country. This matter will be placed in a just and strong light, by the following table, exhibiting, at one view, in different columns, the real distance of every post-office from Edinburgh,—by the common turnpike-road,—by the present route of the post,—and by the one I propose: other two columns are added, shewing the usual time of the post's arrival at the several offices, and the difference in point of earliness that might be expected from the suggested arrangement.

Places.	Distance from Edinburgh,			Time of his arrival now.	His arrival would be earlier.
	By the common turnpike-road.	As the post now travels.	As by the proposed alteration.		
Kelso,	42 miles.	76 miles.	42 miles.	4 or 5 m.	by 6 hours.
Jedburgh,	45	85	51	6 to 8 m.	
Hawick,	47	97	54	9 or 10 m.	10 ditto.
Selkirk,	36	108	43	12 noon.	14 ditto.
Melrose,	34	115	36	1 or 2 ev.	16 ditto.
Galashiels,	30	119	40	3 or 4 ev.	16 ditto.

Jedburgh

Jedburgh is the only place which would derive little or no benefit from this plan : for as the post, calculating from the present time of his departure from Edinburgh, would arrive there at midnight, it might be found more eligible, to detain him at Kelso for six or seven hours, to forward his bag along with the English mails, which makes no alteration with respect to Jedburgh, and to send himself back to Lauder with all letters and newspapers from the S. for that burgh, and for several gentlemen and farmers near the high road, whose servants now go for them to Kelso. The English mails, proceeding as they do at present to Hawick, would there be delivered to the runner from Selkirk, &c. whose horse and himself, after resting ten or eleven hours, would be sufficiently refreshed to return at a brisk pace, so as to reach the remaining stages rather before the usual hour, and would carry with him answers, from Hawick, and from the several offices in his way, to the letters received the preceding day, to be forwarded from Lauder to Edinburgh that very evening. It would be a further advantage to these counties, if a post was established from Hawick by Langholm to Carlisle. But I have not the same sure grounds to assert, that such an establishment would be lucrative to the revenue. The runner from Lauder to Kelso may be discontinued, if experience shall prove that part of the plan to be unproductive : And other alterations may be adopted, or other measures devised, more simple, and of more extensive public utility. But no sound judgment can be formed, concerning the real effect of any particular arrangement, either with respect to general convenience or profit to the State, without a trial for such a competent time, as will enable the country to understand its nature, and to feel its complete operation.

The improvement of the country, and the interests of agriculture, are more deeply involved in this subject, than superficial

superficial inquirers may imagine. For, setting aside the useful hints and valuable information on rural affairs, often contained in periodical publications and private letters, in the conveyance of which, the delay of a day or two may be of little consequence, are there not many particulars concerning which early intelligence is of vast importance to farmers? Intimation of any sudden change in the prices of grain, cattle, or sheep, in the leading markets, of any kind of grain for feed, or of animals for rearing, of peculiar excellency, of the acceptance or rejection of an offered bargain, of the failure or suspected solvency of a debtor, and of various other matters, which it would be tedious as well as difficult to specify, cannot surely be too speedily conveyed. There is, besides, an indefinite number of local and incidental circumstances of more or less moment continually arising among his neighbours, for a distinct account of which, any farmer would rather pay the postage of a letter, than send a servant and a horse ten or a dozen of miles. And there are numerous pecuniary transactions, which exact and honest dealers could easily manage by a cross post, and thus save to one of the parties the expence of a journey or an express. In short, the loss of time and of labour, in a critical season, the injury done to horses, and the travelling charges of servants, all of which are grievous impediments to agriculture, could in many instances be lessened, and in some almost wholly done away, by a judicious arrangement of direct and cross posts.

I forbear to say any thing concerning the abolition of *thirlage*, or adstriction to a particular mill, where tenants are bound to grind the corns upon their farms at a higher rate than what is commonly given at other places, because it is generally allowed, by all the proprietors and tenants with whom I have conversed on the subject, to be a grievance, which, in the progress of improvement, will be gradually

dually lessened, and at last cease to be felt *. To this general conviction, which is daily becoming stronger, all motives of self-interest must soon give way. The time, we ardently hope, is not far distant, when, freed from all the incumbrances which the pride or mistaken policy of our ancestors imposed upon agricultural improvements, our land, under the auspices of a just and mild government, shall attain a high state of cultivation, and shall abundantly reward the skill and labour of the farmers, and the liberal maxims adopted by their landlords.

* It is believed, that an act for the abolition of thirlage, is speedily to be brought in, under the auspices of the Highland Society, and with the concurrence of Government.

A D.

A D D E N D A.

THE following particulars have either occurred since the preceding pages went to press, or information concerning them was not communicated to me in time to be taken notice of in the proper place. To each article is prefixed the page, where it ought to have been introduced either into the text or a note.

I.

P. 58.—ON the supposition made in this page of a machine with two horses thrashing fifteen bolls each day for 26 days or 390 bolls, a friend has favoured me with the following full and accurate statement of the expence and saving arising from it; and, at the same time, has subjoined other calculations and observations worthy of public attention.

It requires six hands, viz.—a boy to drive the horses,—two women to unloose and hand the sheaves to the feeder,—a man to feed, that is, to spread out the loosened sheaves so as to be caught equally by the whole length of the rollers,—a woman to riddle the grain when thrashed,—and a
man

man or woman to take away the straw. The expence will be as under :

A man and a pair of horses, for 26 days,			
at - - -	5 s. 4 d.	L. 6	18 8
A man, for 26 days, at -	1 s. 2 d.	1	10 4
Three women, 26 days, at 10 d. each or	2 s. 6 d.	3	5 0
A boy, 26 days, at -	0 s. 8 d.	0	17 4
A man, three women and a boy, cleaning the grain, by a common fan, after being winnowed from the chaff by the machine, measuring and putting it up in sacks, eleven days, at the above wages, -		2	7 8
Interest at 10 <i>per cent.</i> of L. 50, the prime cost of the machine and fans, -		5	0 0
Annual expence of grease, &c. -		1	0 0
		L. 20	19 0

A thrasher's wages and maintenance, supposing him to be a house-servant, is estimated at - L. 18 0 0

One man and three women assisting to winnow, clean, measure, and put up the corn, one-half day every week, or 26 days through the year, at the above wages, - 4 15 4

L. 22 15 4

Hence there is, after every deduction, a clear saving by the machine of 1 16 4

Again, supposing the thrasher to work by the piece, and to receive 1 s. *per* boll for thrashing and bundling the straw, the saving will be greater.

Thrashing

Thrashing 390 bolls at 1 s.	L. 19 10 0
Expence of winnowing, &c. as before,	4 15 4
	L. 24 5 4
The same quantity done by the machine,	20 19 0
Saving by the machine,	L. 3 6 4

The reader will be pleased to observe, that the machine is calculated to go only 8 hours in the day, and that all the hands, receiving a full day's wage, have two hours each day to bundle up the straw. It must be obvious that this saving will always be greater, in proportion both to the number of days during which the machine is employed more than the 26 reckoned upon, and to the quantity of grain thrashed more than 15 bolls in a day. From some experiments lately made, by adding a horse to the pair usually yoked, one machine thrashed a little more than 4 bolls in an hour, and another thrashed $3\frac{1}{2}$ of a boll in the same time. In the latter case the straw was very rank and somewhat damp. A third machine, drawn only by two horses, went with so much smoothness, ease, and velocity, as to be able, in the opinion of very experienced judges, to thrash at least 5 if not 6 bolls in an hour, without any extraordinary fatigue to the horses. It was made by a mill-wright in the suburbs of Galashiels, who increased the velocity, by enlarging the circumference of the wheels and giving them more teeth or cogs, and, at the same time, diminished the friction, by placing the switchers or beaters a little diagonally upon the drum or cylinder, instead of horizontally or in a straight line. The precise degree of obliquity, or departure from the straight line, that ought to be preferred, must be determined by experience. But the difference of six inches, which he has brought forward one end of his beaters, has a visible effect in giving the machine a soft and easy motion, while it completely separates the grain from the

A 22

straw.

straw. By such a machine, thrashing only four bolls in an hour, going eight hours in the day, and one day every week from the 12th of October to the 1st of June, being nearly 33 weeks, the quantity thrashed, the expence, and the saving, will all be as follows:

The quantity thrashed at four bolls an hour for eight hours, will be 32 bolls each day for 33 days, or 1056 bolls,

A man and a pair of horses for 33 days,

at — — — 5 s. 4 d. L. 8 16 0

A man, for 33 days, at — — 1 s. 2 d. 1 18 6

Three women, at 8 d. * each, for 33 days,

at — — — 2 s. 0 d. 3 6 0

A boy, for 33 days, at — — 0 s. 8 d. 1 2 0

Interest, and expence of grease *, — — 6 10 0

A man, three women, and a boy, cleaning

the grain, measuring, and putting it up in

sacks, 33 days, at the above wages, — 6 6 6

L. 27 19 0

Thrashing 1056 bolls by the flail, and shaking

the straw, at 11 d. *per* boll, L. 48 8 0

Winnowing, cleaning, measuring,

and putting it up, calculated from the expence stated

above, of winnowing, &c.

the 390 bolls, — * 12 18 0

61 6 0

Sum as above, 27 19 0

Hence the saving by the machine is L. 33 7 0

Instances

* Left the reader should think these calculations are founded on different and unfair principles, it may not be improper to explain some of the particulars

Instances may occur, when, from a small want of exactness in some of its parts, or from some of them going out of order, the machine may not be easily drawn by two horses. In such cases, an additional horse might be added

at
 particulars which seem to countenance this suspicion. The first calculation, relative to the 26 days, was accommodated to the supposed work of a thrasher with the flail through the year, both as a house-servant, and as a worker by the piece, or *by lot* as it is here called. In both cases he is supposed to bundle the straw, and therefore only $1\frac{1}{2}$ of a boll is expected from him each day, and he is allowed 1 s. *per* boll when working by the piece. In the contrast with his thrashing, the machine is supposed to go eight hours each day, to thrash fifteen bolls, and to require six hands, whose wages are reckoned for ten hours work; two of these hours being allotted for bundling the straw. This calculation was merely intended to shew the superiority of the machine, even upon the most moderate computation of its efficient powers. The second calculation proceeds upon the quantity of grain which several machines have actually been found to thrash in a day, and upon the number of days during which one of them must be employed, during a great part of the year, to furnish fodder for the cattle upon a farm which has above 250 acres annually in tillage. In it the bundling of the straw is omitted: the women are only charged at the rate of 1 d. *per* hour for the time they attend upon the machine; and the thrasher is allowed only 11 d. *per* boll; which considerably lessens the saving by the machine, because an additional 1 d. on 1056 bolls is L. 4, 8 s. whereas an additional 2 d. to three women for 33 days, amounts only to 16 s. 6 d. To have made the contrast perfectly fair, a deduction of two hours from ten, or of one-fifth, should also have been made from the wages of the two men and the boy employed at the machine, which would have increased the saving by it about 20 s. The charge for grease or oil for the machine is made $\frac{1}{3}$ more on account of the additional days it is worked, and the greater velocity with which it moves. In both calculations, the expence of cleaning the corn by the flail is stated fully at double what it is represented to cost by the machine, because one-half of that work is done by a fan attached to the machine and by the woman who riddles. And besides, the large quantity thrashed at once, and winnowed by the machine, must be dressed for the market in a shorter time, than the same amount made up of small quantities thrashed by the flail, and cleaned regularly as it is thrashed. The very time, consumed in assembling the necessary hands and putting the barn in order as often as a few bolls are thrashed, is precious to a judicious farmer.

at 2 s. *per* day, or two pairs might be kept, to be yoked four hours alternately, and the pair, not employed in the machine, set to any easy work about the farm. But, as the average of stacks contains only from 16 to 20 bolls, and as very seldom more than one are thrashed in a day, one pair of horses, with the allowance of an hour to rest and to eat a little corn, will in general manage one of them without much difficulty, besides doing some lighter and necessary jobs during the rest of the day.

It is but justice to add, that there are very few, if any, instances of grain being so completely beat from the straw, by the flail, as by the machine. This seems to be generally allowed by every person, who has made frequent and careful comparisons of the straw thrashed by both. †

II.

P. 82.—Owing to the unfavourable season at the end of 1796, wheat was not dibbled to such an extent as was proposed. Mr Church at Mofstower gave one furrow of 9 inches to a field which had lain two years in clover. The soil was a sandy loam, and the subsoil was hard gravel, with an intermixture of barren earth. His son, who had lately returned from Norfolk, got dibbles made, taught some people how to use them, and had the operation performed exactly according to the practice of that county. The dibbles are about $3\frac{1}{2}$ feet long, and are used without stooping; their stalk is of iron, with a handle or top like that of a spade; their lower end conical, very sharp and steeled at the point. The dibblers moved backward, making two rows of holes at once with one of these instruments in each hand, by thrusting both into the ground at the same instant, and pulling them out with a quick circular motion inward or outward,

ward, to smooth the sides of the holes, and prevent loose earth from tumbling in, without which precaution the work would have been imperfectly done. The furrows, being all exactly equal, and nicely flattened with a roller, served the dibblers for a rule or line to keep the rows pretty straight. An acre had two rows on every furrow, and they were consequently $4\frac{1}{2}$ inches distant from each other: Upon $\frac{1}{4}$ of an acre only one row was made in the furrow. The holes in the rows in both cases were about 3 inches asunder, and from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches deep. Four boys or girls followed each dibbler, dropping from 2 to 4 grains into each hole, as nearly as could be guessed; for their young fingers were so benumbed with cold, that they could not always be quite certain of the number they let fall; though the $\frac{1}{4}$ of an acre was rather more accurately done than the other. The seed was covered by a common harrow bushed with thorns. The quantity used was 3 pecks $1\frac{1}{2}$ gallons English measure, or about 3 pecks to the acre. This operation was performed in November; and the weather not permitting more to be dibbled, the rest of the field was sown broadcast, about the same time, with the same wheat, pickled in the same manner. The broadcast was tallest, and ripened a few days earlier. The dibbled, from the land being very clean, required neither hoeing nor weeding; it tillered more than the other; its straw was thicker, stouter, and sooner ready for inking after being cut; the grain was large, well published and heavy; and the produce of the acre was 36 bushels, that of the $\frac{1}{4}$ of an acre was at the rate of 42 bushels. The boll best known in Roxburghshire is rather more than 6 bushels.

III.

P. 97.—Potatoes were planted with the plough before the 1760, by the late Mr Scott of Wool, and he was among the first to adopt the improved method of preparing ridges for them, or of dropping them into every third furrow. He likewise brought seed from Langholm of the common white kind, before Dr Macknight came to the county; but they were so little known in the neighbourhood, that a few, with which Dr Macknight favoured me in 1772, were looked upon as a novelty by most people who saw them. I am happy in an opportunity of doing justice to the memory of a very ingenious and worthy gentleman; and I most sincerely regret that I had it not in my power to trace every species of improvement in these counties to its true origin.

IV.

P. 120.—Since this page was printed, I have been favoured with the following measurement of 3 trees, supposed to be the largest of their respective kinds in the county.

An oak, on the estate of Fernieherst near Jeburgh, called from its majestic appearance the *King of the Wood*, is $78\frac{1}{2}$ feet high, and has a straight trunk of 42 feet, which measures, at the bottom 11 feet 5 inches, at the height of $6\frac{1}{2}$ feet 10 feet 3 inches, and nearly as much at the height of 10 feet, when it sends out its first branches. This part of the trunk contains about 65 feet of wood, and, as the remaining part of 32 feet will admit of an average circumference of $5\frac{1}{2}$ feet, it will probably contain about 55 feet, besides much valuable wood in several large branches.

An

An elm, at Friars, between Roxburgh Castle and Kelso, known by the name of the *Trysting-tree*, is 79 feet high, and has a trunk of 10 feet in height, which measures at the bottom $18\frac{1}{2}$ feet, and at the top $22\frac{1}{2}$ feet. But, as this greater compass at the top is owing to an excrescence of spongy or fungous matter, and as the trunk rather tapers a little from the bottom to the place where this excrescence begins, the average circumference cannot be reckoned above 17 feet, which makes its solid contents a little more than 180 feet. The quantity of wood in its branches I am unable to estimate.

Both these trees are greatly inferior to an ash at Cesford, called the *Crow-tree*. The height of its trunk is 18 feet; its circumference at the bottom $26\frac{1}{2}$ feet, at 9 feet above the ground 15 feet, and immediately below the clefts 18 feet 2 inches. Calculated in the common way, by two lengths of 9 feet each according to Hoppus, this trunk contains nearly 397 solid feet. At the height of 18 feet three huge limbs branch out from it, each of them equal to a large tree: These are calculated to contain at least 676 feet, making the whole tree 1073 feet, besides several smaller branches not measurable. I was not favoured with the height of this tree.

The larix at Haining, mentioned p. 286, as measuring 11 feet 5 inches, was planted in 1746, and measured in 1769, at 2 feet above the ground, 5 feet 2 inches; and, in 1791, at the same height, 7 feet 2 inches. A fine silver fir was lately cut down there, which, at the same height, measured, in 1769, 6 feet; and in 1791, 7 feet 5 inches.

V.

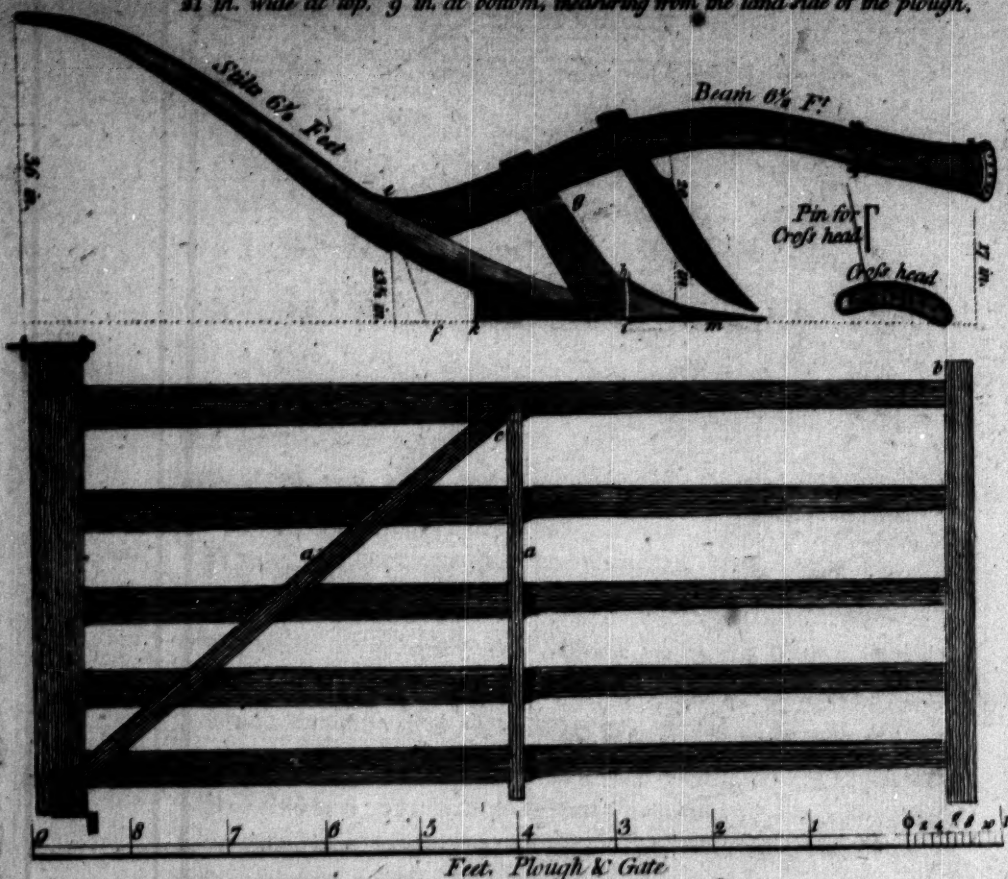
MISCELLANEOUS PARTICULARS.

A farmer in Roxburghshire has, for some years, made a few cheeses from the butter-milk of cows, and finds them to be remarkably well flavoured, and much richer than any cheese made from cow-milk after the cream is taken from it. The milk is coagulated, and the cheeses are made in the common way.

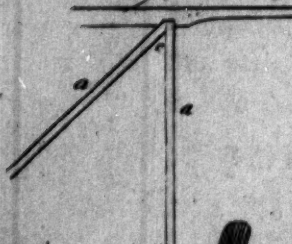
It may not be improper to mention, that since the account of Roxburghshire went to press, some alteration has taken place in the state of property there, by which a larger share of it now belongs to Peers.

Much damage was done to part of the crops in several places, by a prodigious fall of sleet and rain on the 20th and 21st October 1797. The potatoes especially suffered severely. The waters of Gala and Leeder were swelled to an unusual size; many damheads were swept away; some bridges were shattered; several houses were rendered uninhabitable; and a good deal of fine arable land was destroyed. After receiving them, the Tweed rose so high, as to carry off the bridge at Kelso. It was fortunate that Tweed itself, and the waters which run into it on the south, were not swelled in the same proportion, otherwise the most alarming mischiefs might have been apprehended.

The Stiles are 2 feet 2, 3, or 4 in. apart at the handle; efg h i Mouldboard, 21 in. wide at top, 9 in. at bottom, measuring from the land side of the plough.

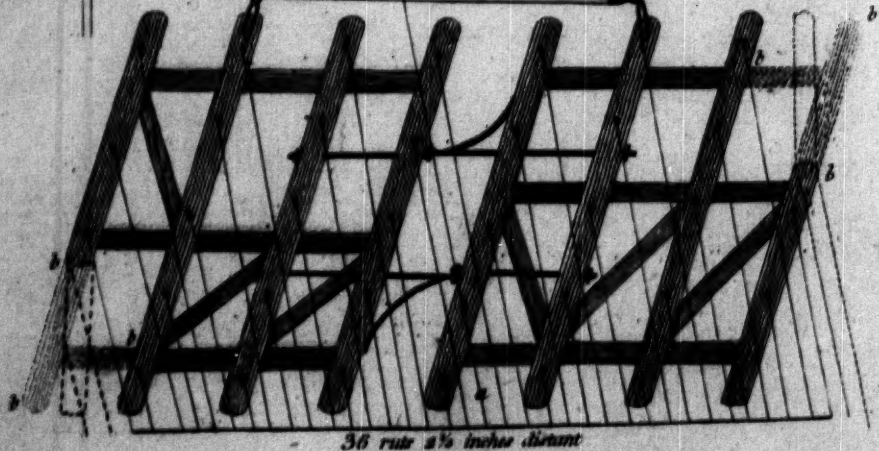


Form of the joint where the cross bars meet the top rail of the gate



Sling for connecting stretchers &c.

Slip for the middle and ends of stretchers.



36 rails 2 1/2 inches distant

For the Roxburghsh. & Selkirksh. agricultural report.

EXPLANATION OF THE PLATE.

1. THE plough is represented without the stilt or handle, held by the right hand, and the mould or mould-board which leans or rests upon the lower part of that stilt. The principal dimensions are marked. A straight edge, applied to the land side from the heel *k* towards the point of the beam must clear that point an inch: this is done by cutting the mortoise in the beam for the sheath a little nearer the land side before than behind, and is intended to keep the plough inclining to the land, where it meets the greatest resistance. When forming ridges for drilled crops, an alteration of the bridle becomes necessary, as the horses then cannot go in a line with the plough. In many cases, more or less breadth of furrow may be wanted than is given by this inclination of the heel to the land side, for which purpose the bridle may be turned more or less to the land or furrow side as circumstances require, and is always kept steady by the hooked pin put into one or other of the holes in the horizontal cross head. The coulter is regulated by wedges to the length of the iron sock *m* which covers the head or peak, and its lower point is placed about $1\frac{1}{2}$ inch above, and a very little behind that of the sock, so as to clear the land side of it about $1\frac{1}{2}$ inch. When land is clayey, or free from stones, these distances must be lessened, and in very stony land must be increased.

2. The hind-post of the gate is made broad and heavy, not only as a counterpoise to the bars and fore-post, but that the bars, by having long tenons in it, may be kept more

B b b

steady.

steady. The whole weight of that post is behind the hinge. The fore-post *b* is as light and slender as the dimensions of the rest of the gate will allow. The mid-post *a* is not above $1\frac{1}{2}$ inch broad, but so thick as to admit of mortises for the bars. The diagonal bar, likewise marked *a*, is $2\frac{1}{4}$ inches broad, and as thick below as the hind-post is, and above as the top bar is. Its lower end rests upon the hind-post, and is cut at right angles, to prevent it from sliding by the pressure of the weight of the gate. The joint of that bar, at the top, rests upon the upright bar its whole breadth; and the upright bar is let up its whole breadth about $\frac{1}{2}$ inch into the top-rail, so that till the wood fail, it is impossible for the gate to move out of its proper position.

3. In the harrows, the line *a a* is extended beyond the tooth, of which it represents the rut, through the two hinges to the junction of the chain with the two horse-tree, merely to shew the line of draught. If two crooked bars, here called *bulls*, be used for the outside of the harrow, as represented by dotted lines *b b b* at each extremity, four more ruts at equal distances may be obtained, and the harrows will be much stronger, than when the outside bulls are kept short according to the part of the plate that is deeply shaded. The dotted parts, both straight and crooked, are added in the plate, to shew one of them the strength which the harrow would gain, and the other both the strength and the advantage of four additional ruts.

N. B. A pair of harrows, with crooked bulls, and four additional teeth, have been used at Langlee, (p. 67, 68), and found to answer even in rugged and stony fields, and still more in smoother ones, fully better, than a pair made under Mr Dawson's direction.